



Lenovo XClarity Orchestrator PowerShell Toolkit Reference



Version 2.0.0

Note

Before using this information and the product it supports, read the [general and legal notices in the XClarity Orchestrator online documentation](#).

First Edition (March 2023)

© Copyright Lenovo 2021, 2023.

LIMITED AND RESTRICTED RIGHTS NOTICE: If data or software is delivered pursuant a General Services Administration "GSA" contract, use, reproduction, or disclosure is subject to restrictions set forth in Contract No. GS-35F-05925.

Contents

| | | | |
|---|-------------|--|----|
| Contents | i | FanData class | 40 |
| Summary of changes in the PowerShell toolkit | .iii | FanMultiplexors class | 41 |
| Chapter 1. PowerShell (LXCOPSTool) toolkit | 1 | FirmwareCatalogEntry class | 42 |
| Chapter 2. Installing the PowerShell toolkit | 3 | FirmwareComponent class | 43 |
| Chapter 3. PowerShell toolkit data types | 5 | LXCOCComponentVerion class | 44 |
| AlertData class | 5 | LXCOCConnection class | 44 |
| AlertFullData class. | 6 | LXCOCJob class | 45 |
| ChassisComponent class | 8 | LXCOCJobCategory enum | 47 |
| ChassisInventoryInfo class | 9 | LXCOCJobFullData class. | 47 |
| ComponentCVEDetails class | 10 | LXCOCJobLog class | 48 |
| ConfigPatternData class | 11 | LXCOCJobStatus enum | 49 |
| DeviceActivationKey class | 11 | LXCOCJobSummary class | 50 |
| DeviceActivationKeyIdentifier class | 13 | LXCOCJobTarget class | 50 |
| DeviceBladeStatus enum | 13 | LXCOCRestResponse class | 51 |
| DeviceConfigCompliance class. | 14 | ManagerConnection class. | 52 |
| DeviceConfigPatternDetails class. | 15 | ManagerData class | 53 |
| DeviceCVE class | 17 | ManagerDetails class | 54 |
| DeviceCVEDetails class. | 17 | ManagerFullData class | 55 |
| DeviceData class | 18 | ManagerGroup class. | 56 |
| DeviceDataExtended class | 19 | ManagerHealthState enum | 56 |
| DeviceFirmware class | 21 | ManagerInAlert class. | 57 |
| DeviceFirmwareCatalog class | 22 | ManagerNetworkSettings class | 57 |
| DeviceFirmwareComplianceDetails class. | 23 | ManagerOptions class | 58 |
| DeviceFullData class. | 24 | ManagerUpdatePolicyState enum | 59 |
| DeviceInAlert class | 25 | ManagerUpdates class | 59 |
| DeviceInfo class | 26 | ManagerUpdateComponent class | 60 |
| DeviceInventoryData class | 27 | ManagerUpdatesPolicy class | 61 |
| DeviceLocation class. | 28 | ManagerUpdateVersion class | 61 |
| DeviceManager class | 29 | PCIDevice class. | 62 |
| DeviceParent class | 30 | PCIDeviceLogicalPort class | 64 |
| DevicePattern class | 30 | PCIDevicePhysicalPort class | 65 |
| DevicePowerSupply class. | 31 | PlatformComponent class. | 66 |
| DeviceServiceDataDetails class | 32 | RequestStatusMessage class | 67 |
| DeviceUpdateComponent class | 33 | ResourceManagerUpdateComplianceDetails class | 68 |
| DeviceUpdates class. | 34 | ServerDriveInfo class. | 69 |
| DeviceUpdatesPolicy class | 35 | ServerInventoryInfo class | 70 |
| DeviceWarranty class | 35 | ServerMemoryModule class | 71 |
| EventData class. | 36 | ServerProcessor class | 72 |
| EventFullData class | 37 | StatusMessage class | 73 |
| | | StorageControllerFirmware class | 74 |
| | | StorageControllerInfo class | 75 |
| | | StorageDriveInfo class | 76 |
| | | StorageEnclosureInfo class | 77 |
| | | StorageInventoryInfo class | 78 |
| | | SwitchInventoryInfo class | 79 |

| | |
|--|----|
| SystemBoardData class | 79 |
| UpdatePolicyData class | 80 |
| UpdatePolicyFullData class | 81 |
| UpdatePolicyPlatform class | 82 |
| UpdatePolicyPlatformCriteria class | 83 |
| WebRequestMethod enum | 83 |

Chapter 4. Virtual appliance and PowerShell management cmdlets. . . 85

| | |
|---------------------------------|----|
| Add-LXCOPSLogHeader | 85 |
| Connect-LXCO | 85 |
| Disconnect-LXCO | 87 |
| Invoke-LXCORestMethod | 88 |
| Set-LXCOPSLogLevel | 90 |

Chapter 5. Alerts and events cmdlets. 91

| | |
|--------------------------|----|
| Get-LXCOAlerts. | 91 |
| Get-LXCOEvents | 93 |
| Get-LXCOJobs | 96 |

Chapter 6. Resource cmdlets101

| | |
|--------------------------|-----|
| Add-LXCManager | 101 |
|--------------------------|-----|

| | |
|----------------------------------|-----|
| Get-LXCDevices | 103 |
| Get-LXCDeviceInventory | 105 |
| Get-LXCManagers | 106 |
| Remove-LXCManager | 108 |

Chapter 7. Resource management cmdlets.111

| | |
|--|-----|
| Invoke-LXCOServerPowerAction | 111 |
|--|-----|

Chapter 8. Update cmdlets113

| | |
|---|-----|
| Get-LXCOfirmwareCatalog | 113 |
| Get-LXCOResourcesCompliance | 114 |
| Get-LXCUpdatePolicies | 116 |
| Import-LXCOfirmwarePackage | 118 |
| Import-LXCUpdatePolicies. | 119 |
| Install-LXCDeviceFirmwareUpdates | 120 |
| Install-LXCResourceManagerUpdates | 122 |
| Join-LXCUpdatePolicy | 124 |
| New-LXCUpdatePolicy | 125 |
| Split-LXCUpdatePolicy | 126 |
| Update-LXCOfirmwareCatalog | 127 |

Summary of changes in the PowerShell toolkit

Lenovo XClarity Orchestrator supports enhancements to the PowerShell toolkit.

This documentation includes new cmdlets and parameters that apply to the current XClarity Orchestrator release and later. For information about enhancements to the PowerShell toolkit in other releases, see [Summary of changes in the PowerShell toolkit](#) in the XClarity Orchestrator online documentation.

Version 2.0

The following cmdlets were added or modified.

- (New) . Deploys a server configuration pattern to one or more servers
- (New) . Returns details about the configuration pattern status for managed servers.
- (New) . Returns a list of all service-data archives or to save one or more specific service-data archives for devices.
- (New) . Returns information about a specific server-configuration pattern.
- (New) . Downloads the XClarity Orchestrator service-data file as a tar.gz archive to the local system.
- (New) .Imports one or more files that contain server-configuration pattern definitions, in JSON format.
- (New) [Get-LXCOResourcesCompliance](#). Returns information about the firmware compliances for managed devices or registered resource managers.
- (New) . Assigns a configuration pattern to specified device.
- (New) . Creates a server-configuration pattern by learning the pattern of an existing server.
- [Join-LXCUpdatePolicy](#). Added the **-ComplianceStatus** parameter to identify whether to replace the currently assigned policy with the new policy based on the current policy compliance.

The following data types were added.

- (New) [ConfigPatternData class](#). Contains data about the configuration pattern.
- (New) [DeviceConfigPatternDetails class](#). Contains information about the configuration pattern applied to a device.
- (New) [DeviceServiceDataDetails class](#). Contains information about a device service data archive.
- (New) [DeviceFirmwareComplianceDetails class](#). Contains information about firmware compliances for a device.
- (New) [ResourceManagerUpdateComplianceDetails class](#). Contains information about update compliance for a specific resource manager.

Chapter 1. PowerShell (LXCOPSTool) toolkit

The Lenovo XClarity Orchestrator PowerShell toolkit (LXCOPSTool) provides a library of cmdlets to automate provisioning and resource management from a Microsoft PowerShell session.

The XClarity Orchestrator PowerShell toolkit cmdlets provide an interface to XClarity Orchestrator REST APIs to automate functions such as:

- Logging in to XClarity Orchestrator
- Executing a REST API request
- Connecting and disconnecting resource managers
- Managing and unmanaging supported devices
- Performing power operations on managed devices
- Collecting inventory data for devices and components
- Monitoring alerts, events, and jobs
- Applying firmware updates to devices
- Configuring servers through the use of Configuration Patterns

Chapter 2. Installing the PowerShell toolkit

To use the Lenovo XClarity Orchestrator PowerShell (LXCOPSTool) toolkit, install the toolkit, and start a Microsoft PowerShell session. The PowerShell toolkit is included with the XClarity Orchestrator appliance and can be downloaded as described below.

Before you begin

Before installing the XClarity Orchestrator PowerShell toolkit, ensure that the local Microsoft Windows system meets the following prerequisites:

- Microsoft .NET Framework 4.8 is installed. You can download Microsoft .NET Framework 4.8 from the [Microsoft .NET Framework 4.8 webpage](#).
- The local system has network connectivity to the XClarity Orchestrator management server.
- You must be logged in as a user with administrator authority to install and uninstall the PowerShell toolkit.
- The XClarity Orchestrator PowerShell toolkit requires PowerShell 5.1 or the latest PowerShell Core 7.2 LTS (see the [Installing PowerShell on Windows webpage](#)).

Note: PowerShell Core is updated frequently by Microsoft. The XClarity Orchestrator PowerShell toolkit is aligned with the latest stable version of PowerShell that is available when the XClarity Orchestrator PowerShell toolkit version is released.

Procedure

- **Using PowerShell Get** Run the following command from a PowerShell session to download and install the toolkit. For more information, see the [PowerShell Gallery – LXCOPSTool webpage](#).

```
Install-Module -Name LXCOPSTool
```

- **Using the InstallLXCOPSTool.bat file** Complete the following steps to download and install the toolkit.

1. Download the toolkit by clicking the **User-Account** menu (👤) on the XClarity Orchestrator title bar, clicking **Toolkit**, and then clicking **Download PowerShell Toolkit** from the dialog.
2. Unzip the package into a local directory.
3. Run the installation .BAT file as administrator to install the tool.
`unzip_directory\InstallLXCOPSTool.bat`
When the installation script is started, you are prompted to choose whether to install for the current user or for all users.
4. Choose the user that you want to use to install the toolkit. Enter **C** for the current user or **A** for all users.
5. Start a PowerShell session.
6. Run the following cmdlet to import the toolkit.

```
Import-Module LXCOPSTool
```

7. Validate that the module was imported by running the following cmdlet.

```
Get-Help *LXCO*
```

A list of all of the XClarity Orchestrator cmdlets is returned.

```
PS C:\> get-Help *LXCO*
```

| Name | Category | Module | Synopsis |
|---------------------|----------|------------|------------|
| Add-LXCOPSLogHeader | Cmdlet | LXCOPSTool | Add-LXC... |
| Connect-LXCO | Cmdlet | LXCOPSTool | Connect... |
| Disconnect-LXCO | Cmdlet | LXCOPSTool | Disconn... |
| Set-LXCOPSLogLevel | Cmdlet | LXCOPSTool | Set-LXC... |

8. Use the `Connect-LXCO` cmdlet to connect to your XClarity Orchestrator server, for example:

```
$user = "USERID"
$password = ConvertTo-SecureString "PasswOrd" -AsPlainText -Force
$cred = New-Object System.Management.Automation.PSCredential($user, $password)
Connect-LXCO -HostUri 192.0.2.0 -Credential $cred -SkipCertificateCheck
```

After you finish

- You can get help for any PowerShell cmdlets using the `Get-Help` cmdlet.
 - `Get-Help *LXCO*`. Lists all PowerShell cmdlets
 - `Get-Help <cmdlet_name>`. Shows brief help for the specified cmdlet
 - `Get-Help <cmdlets_name> -full`. Shows detailed help for the specified cmdlet
- To uninstall the PowerShell toolkit, run the following command as administrator.
`unzip_directory\RemoveLXCOPSTool.bat`
- To install a later version, uninstall the PowerShell toolkit, and then install the later version.

Chapter 3. PowerShell toolkit data types

The following data types (classes and enumerations) are used by the Lenovo XClarity Orchestrator PowerShell toolkit cmdlets.

AlertData class

This data object contains basic information about an alert.

Namespace: Lenovo.XClarityOrchestrator.PowerShell.Data.Alerts

Assembly: Lenovo.XClarityOrchestrator.PowerShell.Data

Properties

public string Message { get; set; }

Message string for the alert.

public string ID { get; set; }

Alert ID that is generated by the resource manager.

public DateTime? RaisedTimestamp { get; set; }

Timestamp when the alert was generated.

public string ResourceName { get; set; }

Name of the resource on which the alert occurred.

public string ResourceType { get; set; }

Resource type. This can be one of the following values.

- **Chassis**
- **Server**
- **LXCA.** XClarity Administrator
- **LXCO.** XClarity Orchestrator
- **Storage**
- **Switch**

public string Service { get; set; }

Service that generated the alert.

public string Severity { get; set; }

Severity; this can be one of the following values.

- **Informational.** Information only. No action is necessary.
- **Warning.** User can decide if action is needed.
- **Critical.** Action is needed immediately, and the scope is broad (perhaps an imminent outage to a critical resource will result).

public string SourceType { get; set; }

Alert source. This can be one of the following values.

- **Analytics**
- **Device**
- **Management**
- **System**

Methods

public virtual bool Equals (object obj);

Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();

Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();

Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();

Returns a string that represents the current object.

(Inherited from System.Object)

AlertFullData class

This data object contains extended information about an alert.

Namespace: Lenovo.XClarityOrchestrator.PowerShell.Data.Alerts

Assembly: Lenovo.XClarityOrchestrator.PowerShell.Data

Inheritance -> Object -> [AlertData class](#)

Properties

public string Action { get; set; }

Action category. This can be one of the following values.

- **Inventory**
- **IP**
- **None** (default)
- **Topology**

public bool IsActive { get; set; }

Indicates whether the alert is active.

public string [] Args { get; set; }

List of dynamic arguments in the alert message string, separated by a comma.

public string CommonEventCode { get; set; }

Event ID that is associated with the alert.

public string ComponentID { get; set; }

ID of the component that generated the alert.

public string ComponentType { get; set; }

Type of the component that generated the alert.

public string Description { get; set; }

Additional information to clarify the reason for the alert.

public object[] Details { get; set; }

Details for this event.

public string EventClass { get; set; }

Event source. This can be one of the following values.

- **Adaptor**
- **Audit**

- **Blade**
- **Cooling**
- **Disks**
- **Expansion**
- **IOModule**
- **Analytics**
- **Memory**
- **Power**
- **Processors**
- **Switch**
- **System**
- **Test**
- **Unknown** (default)

public DateTime? EventTimestamp { get; set; }

Timestamp when the event was generated.

public string [] FailFRUNumbers { get; set; }

(Hardware fault events only) List of names for FRUs that are associated to the fault.

public string [] FailFRUSNs { get; set; }

(Hardware fault events only) List of serial numbers for FRUs associated to the fault.

public string [] FailFRUUUIDs {get; set; }

(Hardware fault events only) List of UUIDs for FRUs that are associated to the fault.

public string [] Flags { get; set; }

List of flags. This can be one of the following values.

- **Excluded.** The event is displayed only in diagnostic logs. The event is excluded from normal log and analytics views.
- **Hidden.** The event is displayed only in diagnostic logs. The event is excluded from normal log and analytics views. This value must be specified for internal communication.
- **Historical.** The event occurred while the orchestrator server was down and can be ignored by EventActions.
- **Ignored.** The event is ignored.
- **Recovered.** The event was involved in the reliable event recovery process.
- **Unsequenced.** Switch system traps are not sequenced. Reliable event recovery is skipped.

public string FRUType { get; set; }

Type of field replaceable unit (FRU) for the component that raised the event.

public string IPAddress { get; set; }

Main IP address of the resource that is the source of this event.

public bool IsLocal { get; set; }

Indicates whether the alert was generated locally (by XClarity Orchestrator).

It is true if the event was raised by XClarity Orchestrator, false otherwise.

public string MessageID { get; set; }

Message ID for the alert.

public string RecoveryURL { get; set; }

Link to more information or recovery actions, if available.

public string SourceID { get; set; }

ID of the device or resource manager on which the alert occurred.

public string UserAction { get; set; }

User actions that can be taken to recover from the error.

public string UserID { get; set; }

ID of the logged in user who created the alert.

public DeviceInAlert Device { get; set; }

Information about the device on which the alert occurred, if applicable.

public ManagerInAlert Manager { get; set; }

Information about the resource manager that manages the device.

Methods

public virtual bool Equals (object obj);

Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();

Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();

Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();

Returns a string that represents the current object.

(Inherited from System.Object)

ChassisComponent class

This data object contains chassis-component data.

Namespace: Lenovo.XClarityOrchestrator.PowerShell.Data.Devices

Assembly: Lenovo.XClarityOrchestrator.PowerShell.Data

Properties

public DeviceFirmware[] Firmware { get; set;}

Component firmware.

public string Name { get; set;}

Component name.

public string Bay { get; set;}

Component bay.

public string Status { get; set;}

Status.

public string Connectivity { get; set;}

Connectivity status.

public string[] IPv4Addresses { get; set;}

List of assigned IPv4 addresses to this component.

public string[] IPv6Addresses { get; set;}

List of assigned IPv6 addresses to this component.

public string TypeAndModel { get; set;}
Component type and model.

public string SerialNumber { get; set;}
Serial number.

Methods

public virtual bool Equals (object obj);
Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();
Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();
Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();
Returns a string that represents the current object.

(Inherited from System.Object)

ChassisInventoryInfo class

This data object contains inventory data for a chassis device.

Namespace: Lenovo.XClarityOrchestrator.PowerShell.Data.Devices

Assembly: Lenovo.XClarityOrchestrator.PowerShell.Data

Inheritance -> Object -> [DeviceInventoryData class](#)

Properties

public FanMultiplexors[] FanMultiplexors { get; set;}
Information about each fan-multiplexor in the device.

public FanData[] Fans { get; set;}
Information about each fan in the device.

public ChassisComponent[] ChassisCMMs { get; set;}
Details about the CMMs included in this chassis.

public ChassisComponent[] ChassisSwitches { get; set;}
Details about the switches included in this chassis.

public ChassisComponent[] ChassisServers { get; set;}
Details about the servers included in this chassis.

public ChassisComponent[] ChassisStorage { get; set;}
Details about the storage included in this chassis.

Methods

public virtual bool Equals (object obj);

Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();

Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();

Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();

Returns a string that represents the current object.

(Inherited from System.Object)

ComponentCVEDetails class

This data object contains information about common vulnerabilities and exposures (CVEs) for a specific component.

Namespace: Lenovo.SysMgmt.LXCO.Integration.Data

Assembly: Lenovo.SysMgmt.LXCO.Integration.Data

Inheritance -> Object -> [DeviceCVEDetails](#)

Properties

public LXCOComponentVersion FixedVersion { get; set; }

Component version where listed CVEs are fixed

public DeviceCVE[] CVEList { get; set; }

List of CVEs that are available for the component

Methods

public virtual bool Equals (object obj);

Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();

Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();

Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();

Returns a string that represents the current object.

(Inherited from System.Object)

ConfigPatternData class

This data object contains data about the configuration pattern

Namespace: Lenovo.SysMgmt.LXCO.Integration.Data

Assembly: Lenovo.SysMgmt.LXCO.Integration.Data

Properties

public string ID { get; set; }

Configuration pattern ID

public string Name { get; set; }

Configuration pattern name

public string Description { get; set; }

Configuration pattern description

public string FormFactor { get; set; }

Form factor

public string CreatedBy { get; set; }

Name of the user who created this pattern.

public DateTime? CreatedTimestamp { get; set; }

Timestamp when this pattern was created.

public DateTime? LastModifiedTimestamp { get; set; }

Timestamp when this pattern was modified last time

Methods

public virtual bool Equals (object obj);

Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();

Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();

Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();

Returns a string that represents the current object.

(Inherited from System.Object)

DeviceActivationKey class

This data object contains information about Feature on Demand (FoD) keys that are installed on a specific device.

Namespace: Lenovo.SysMgmt.LXCO.Integration.Data

Assembly: Lenovo.SysMgmt.LXCO.Integration.Data

Properties

public int KeyFeatureType { get; set; }

FoD feature type

public string KeyStatus { get; set; }

Status of the FoD key. This can be one of the following values.

- UNKNOWN
- OTHER
- VALID
- INVALID
- INPROCESS
- EXPIRED
- LIMIT_REACHED
- NEED_VALID_ELSEWHERE
- KEY_NOT_FOUND

public string Description { get; set; }

FoD key description

public int KeyUseLimit { get; set; }

Key usage limit

public string KeyExpirationDate { get; set; }

Date when the FoD key expires

public int KeyUseCount { get; set; }

Key usage count

public string Uuid { get; set; }

Unique identifier for the FoD key

public DeviceActivationKeyIdentifier[] KeyIdentifiers { get; set; }

FoD associative identifier list

Methods

public virtual bool Equals (object obj);

Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();

Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();

Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();

Returns a string that represents the current object.

(Inherited from System.Object)

DeviceActivationKeyIdentifier class

This data object contains associative identifier for a Feature on Demand (FoD) key.

Namespace: Lenovo.SysMgmt.LXCO.Integration.Data

Assembly: Lenovo.SysMgmt.LXCO.Integration.Data

Properties

public string IdentifierType {get; set; }

Identifier key type. This can be one of the following values.

- **ASIC**
- **MAC. MAC address**
- **MT. Machine type**
- **UNKNOWN**

public string Identifier { get; set; }

Identifier key value

Methods

public virtual bool Equals (object obj);

Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();

Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();

Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();

Returns a string that represents the current object.

(Inherited from System.Object)

DeviceBladeStatus enum

This data object contains the blade status for a specific device.

Namespace: Lenovo.XClarityOrchestrator.PowerShell.Data

Assembly: Lenovo.XClarityOrchestrator.PowerShell.Data

Inheritance > Object > ValueType > Enum > DeviceBladeStatus

Values

- **Initializing** (0)
- **Active** (1)
- **Discovering** (2)
- **Provisioning** (3)

- **ProvisionPassed** (4)
- **ProvisionFailed** (5)
- **ProvisioningFailedWithIsolate** (6)
- **PreInitialization** (7)
- **SDRLoad** (8)
- **POSTInitialization** (9)
- **CommunicationsError** (10)
- **InitFailed** (11)
- **KernelMode** (12)
- **MaintenanceMode** (13)
- **FireHoseDumpMode** (1)
- **Flashing** (15)
- **NoPower** (16)
- **Unknown** (17)

DeviceConfigCompliance class

This data object contains information about server-confirmation compliance for a specific device.

Namespace: Lenovo.SysMgmt.LXCO.Integration.Data

Assembly: Lenovo.SysMgmt.LXCO.Integration.Data

Properties

public bool IsAddressPresent { get; set; }

Identifies whether address pools are used

public string ComplianceStatus { get; set; }

Compliance status. This can be one of the following values.

- **valid.** Server settings are compliant with the profile
- **invalid.** Server settings are Non-compliant with the profile
- **none.** Compliance has not been calculated because pattern is still activated, pending or inactive

public bool IsManagementPatternPresent { get; set; }

Identifies whether a management-interface pattern is used

public string ProfileName { get; set; }

Name of the server profile

public string ProfileStatus { get; set; }

Current status of the profile. This can be one of the following values.

- **ASSIGNED.** The profile is assigned to the server.
- **UNASSIGNED.** The profile is not assigned to any server.
- **PENDING_ACTIVATION.** The profile is created and targeted to a server but has not been activated yet.
- **ACTIVATING.** The profile is currently being activated on the targeted server
- **ERROR_ACTIVATING.** There was an error while activating the profile on the targeted server.

public string TemplateId { get; set; }

ID of the server pattern that was used to create the profile

public string Type { get; set; }

Pattern type

Methods

public virtual bool Equals (object obj);

Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();

Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();

Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();

Returns a string that represents the current object.

(Inherited from System.Object)

DeviceConfigPatternDetails class

This data object contains information about the configuration pattern applied to a device.

Namespace: Lenovo.SysMgmt.LXCO.Integration.Data

Assembly: Lenovo.SysMgmt.LXCO.Integration.Data

Properties

public string DeviceName { get; set; }

Name that is displayed in the user interface for this device.

public string ProductName { get; set; }

Product name.

public string ID { get; set; }

Device ID.

Tip: The device ID includes the UUID of the device and the UUID of the resource manager that manages the device, separated by a dash (*{deviceUUID}-{managerUUID}*).

public string UUID { get; set; }

Device UUID.

public string [] Ipv6Addresses { get; set; }

List of IPV6 addresses.

public string [] Ipv4Addresses { get; set; }

List of IPv4 addresses.

public string PowerStatus { get; set; }

Power status. This can be one of the following values.

- **Off**
- **On**
- **Standby**
- **Unknown**

public string OverallHealthState { get; set; }

Highest severity of all alerts. This can be one of the following values.

- **Normal**
- **Warning**
- **Critical**
- **Unknown**

public string SerialNumber { get; set; }

Device serial number.

public string MgmtProcType { get; set; }

Type of management controller. This can be one of the following values.

- **FSP**
- **IMM2**
- **IMM3v1**
- **XCC**
- **XCC2**
- **UNKNOWN**

public string AccessState { get; set; }

Access state of the server key. This can be one of the following values.

- **Online**
- **Offline**
- **Offline Managed**
- **Partial**
- **Pending**
- **Unknown**

public string DeviceType { get; set; }

Device type.

public string MachineTypeModel { get; set; }

Machine type and model, separate by a forward slash (for example, 8387/AC1).

public ManagerGroup[] Groups { get; set; }

Information about each group in which this device is a member.

public DevicePattern Patterns { get; set; }

Information about the applied pattern of the device, if applicable.

public DeviceManager Manager { get; set; }

Information about the resource manager that manages this device.

Methods

public virtual bool Equals (object obj);

Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();

Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();

Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();

Returns a string that represents the current object.

(Inherited from System.Object)

DeviceCVE class

This data object contains information about a specific common vulnerabilities and exposures (CVE).

Namespace: Lenovo.SysMgmt.LXCO.Integration.Data

Assembly: Lenovo.SysMgmt.LXCO.Integration.Data

Properties

public string Id { get; set; }
CVE ID

public string Name { get; set; }
CVE name

public string Severity { get; set; }
CVE severity

public string Link { get; set; }
Link where the CVE is detailed

public LXCOComponentVersion FixedVersion { get; set; }
Component version which fixes this vulnerability

Methods

public virtual bool Equals (object obj);
Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();
Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();
Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();
Returns a string that represents the current object.

(Inherited from System.Object)

DeviceCVEDetails class

This data object contains information about common vulnerabilities and exposures (CVEs) for a specific device.

Namespace: Lenovo.SysMgmt.LXCO.Integration.Data

Assembly: Lenovo.SysMgmt.LXCO.Integration.Data

PropertiesDeviceCVE

public string Severity { get; set; }

Highest severity key of all CVEs for the component. This can be one of the following values.

- **critical**. Devices with one or more critical CVEs
- **noncritical**. Devices with one or more high, medium, and low CVEs
- **protected**. Devices with no CVEs

public int AvailableFixes { get; set; }

Total number of CVEs available for this component

Methods

public virtual bool Equals (object obj);

Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();

Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();

Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();

Returns a string that represents the current object.

(Inherited from System.Object)

DeviceData class

This data object contains high-level information about a managed device.

Namespace: Lenovo.SysMgmt.LXCO.Integration.Data

Assembly: Lenovo.SysMgmt.LXCO.Integration.Data

Properties

public string DeviceName { get; set; }

Name that is displayed in the user interface for this device

public string ProductName { get; set; }

Product name

public string Id { get; set; }

Device ID

Note: The device ID includes the UUID of the device and the UUID of the resource manager that manages the device, separated by a dash (*deviceUUID–managerUUID*).

public string ManagerUuid { get; set; }

Resource manager UUID

public string [] Ipv6Addresses { get; set; }

List of IPV6 addresses

public string [] Ipv4Addresses { get; set; }

List of IPv4 addresses

public string PowerStatus { get; set; }

Power status. This can be one of the following values.

- **Off**
- **On**
- **Standby**
- **Unknown**

public string OverallHealthState { get; set; }

Highest severity of all alerts. This can be one of the following values.

- **Normal**
- **Warning**
- **Critical**
- **Unknown**

Methods

public virtual bool Equals (object obj);

Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();

Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();

Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();

Returns a string that represents the current object.

(Inherited from System.Object)

DeviceDataExtended class

This data object contains extended information for a specific device.

Namespace: Lenovo.SysMgmt.LXCO.Integration.Data

Assembly: Lenovo.SysMgmt.LXCO.Integration.Data

Inheritance -> Object -> [DeviceData](#)

Properties

public DeviceFirmware[] Firmware { get; set; }

Information about each firmware

public string Uuid { get; set; }

Device UUID

public string SerialNumber { get; set; }

Device serial number

public string ManagerUuid { get; set; }

Resource manager UUID

public string MgmtProcType { get; set; }

Type of management controller. This can be one of the following values.

- **FSP**
- **IMM2**
- **XCC**
- **XCC2**
- **UNKNOWN**

public string AccessState { get; set; }

Access state of the server key. This can be one of the following values.

- **Online**
- **Offline**
- **Offline Managed**
- **Partial**
- **Pending**
- **Unknown**

public string UserDefinedName { get; set; }

User-defined name for the device

public string MachineTypeModel { get; set; }

Machine type and model, separate by a forward slash (for example, 8387/AC1)

public bool IsAccurateHealth { get; set; }

Indicates whether the health status is accurate. This can be one of the following values.

- **true**. The **AccessState** is Offline Managed, Online, or partial.
- **false**. The **AccessState** is Offline, Pending, or Unknown.

public ManagerGroup[] Groups { get; set; }

Information about each group in which this device is a member

public int TechTipsCount { get; set; }

Number of tech tips that are associated with this device

public DeviceWarranty Warranty { get; set; }

Information about the warranty for this device

Methods**public virtual bool Equals (object obj);**

Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();

Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();

Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();

Returns a string that represents the current object.

(Inherited from System.Object)

DeviceFirmware class

This data object contains information about specific firmware on a device.

Namespace: Lenovo.SysMgmt.LXCO.Integration.Data

Assembly: Lenovo.SysMgmt.LXCO.Integration.Data

Properties

public string Name { get; set; }

Firmware name

public DateTime? Date { get; set; }

Firmware date

public string Type { get; set; }

Firmware type, such as UEFI, MP or DSA

public string Build { get; set; }

Firmware build

public string Version { get; set; }

Firmware version

public string Role { get; set; }

Firmware role. This can be one of the following values.

- **Primary**
- **Backup**
- **Temporary**
- **Permanent**

public string Status { get; set; }

Firmware status. This can be one of the following values.

- **Active**
- **Inactive**
- **Pending**

public string Revision { get; set; }

Firmware revision

public string ActivationStatus { get; set; }

Firmware activation status

public string DeviceType { get; set; }

Device type

public int[] Classifications { get; set; }

Firmware type codes

Methods

public virtual bool Equals (object obj);

Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();

Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();

Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();

Returns a string that represents the current object.

(Inherited from System.Object)

DeviceFirmwareCatalog class

This data object contains information about update packages and component.

Namespace: Lenovo.SysMgmt.LXCO.Integration.Data

Assembly: Lenovo.SysMgmt.LXCO.Integration.Data

Inheritance -> Object -> [FirmwareCatalogEntry class](#)

Properties

public string PlatformUuid { get; set; }

Platform unique ID

public string ChassisTypes { get; set; }

Chassis type, if applicable

public string PlatformType { get; set; }

Platform type. This can be one of the following values.

- **Manager.** Lenovo XClarity Administrator resource manager
- **Repopack.** Lenovo XClarity Administrator repository pack
- **Server.** Server device

public PlatformComponent[] Children { get; set; }

Information about each component in the platform

Methods

public virtual bool Equals (object obj);

Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();

Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();

Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();

Returns a string that represents the current object.

(Inherited from System.Object)

DeviceFirmwareComplianceDetails class

This data object contains information about firmware compliances for a device.

Namespace: Lenovo.XClarityOrchestrator.PowerShell.Data.Devices

Assembly: Lenovo.XClarityOrchestrator.PowerShell.Data

Properties

public string DeviceName { get; set; }

Name that is displayed in the user interface for this device.

public string ProductName { get; set; }

Product name.

public string MachineType { get; set; }

Machine type.

public string ManagerUUID { get; set; }

Resource manager UUID.

public string [] Ipv6Addresses { get; set; }

List of IPV6 addresses.

public string [] Ipv4Addresses { get; set; }

List of IPv4 addresses.

public string PowerStatus { get; set; }

Power status. This can be one of the following values.

- **Off**
- **On**
- **Standby**
- **Unknown**

public string OverallHealthState { get; set; }

Highest severity of all alerts. This can be one of the following values.

- **Normal**
- **Warning**
- **Critical**
- **Unknown**

public string SerialNumber { get; set; }

Device serial number.

public string AccessState { get; set; }

Access state of the server key. This can be one of the following values.

- **Online**
- **Offline**
- **Offline Managed**
- **Partial**
- **Pending**
- **Unknown**

public string ID { get; set; }

Device ID

Note: The device ID includes the UUID of the device and the UUID of the resource manager that manages the device, separated by a dash (*deviceUUID–managerUUID*).

public ManagerGroup[] Groups { get; set; }

Information about each group in which this device is a member.

public DeviceUpdates Updates { get; set; }

Information about the applied pattern of the device, if applicable.

Methods

public virtual bool Equals (object obj);

Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();

Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();

Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();

Returns a string that represents the current object.

(Inherited from System.Object)

DeviceFullData class

This data object contains detailed information about a device.

Namespace: Lenovo.SysMgmt.LXCO.Integration.Data

Assembly: Lenovo.SysMgmt.LXCO.Integration.Data

Inheritance -> Object -> [DeviceDataExtended](#)

Properties

public DeviceBladeStatus? BladeState { get; set; }

State of the server

public string DeviceType { get; set; }

Device type

public string FQDN {get; set; }

Fully qualified domain name

public string PartNumber { get; set; }

Part number

public bool? HasOS { get; set; }

Identifies whether an operating system is installed

public bool? IsITME { get; set; }

Indicates whether the server is a Flex System compute node

public string ManagerOverallHealthState { get; set; }

Resource manager health state

public DeviceActivationKey[] ActivationKeys { get; set; }
of installed Feature on Demand (FoD) keys

public DeviceConfigCompliance[] ConfigCompliances { get; set; }
Information about the server-configuration compliance

public string FirmwareComplianceStatus { get; set; }
Compliance status. This can be one of the following values.

- **compliant.** The device is compliant with their server profile.
- **notCompliant.** The device is not compliant with their server profile.
- **noPolicyAssigned.** The device is not assigned a server profile.
- **unsupportedCompliance.** Configuration is not supported for the device.

public DeviceInfo DeviceInfo { get; set; }
Information about the device

public DeviceLocationLocation { get; set; }
Information about the location of the server or Flex System storage device

public DevicePattern Pattern { get; set; }
Information about the applied pattern of the device, if applicable

public DeviceParent Parent { get; set; }
Information about the parent of the server or Flex System storage device, if applicable

public DeviceUpdates Updates { get; set; }
Information about the updates

Methods

public virtual bool Equals (object obj);
Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();
Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();
Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();
Returns a string that represents the current object.

(Inherited from System.Object)

DeviceInAlert class

This data object contains information about the device on which the alert occurred.

Namespace: Lenovo.XClarityOrchestrator.PowerShell.Data.Alerts

Assembly: Lenovo.XClarityOrchestrator.PowerShell.Data

Properties

public string Name { get; set; }

Name of the device on which the alert occurred.

public string MTM { get; set; }

Machine type and model, separated by a forward slash (for example, "8695/AC1").

public string SerialNumber { get; set; }

Serial number of the device.

Methods

public virtual bool Equals (object obj);

Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();

Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();

Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();

Returns a string that represents the current object.

(Inherited from System.Object)

DeviceInfo class

This data object contains general information about a specific device.

Namespace: Lenovo.SysMgmt.LXCO.Integration.Data

Assembly: Lenovo.SysMgmt.LXCO.Integration.Data

Properties

public DeviceLocation Location { get; set; }

Information about the location of the server or Flex System storage device

public DeviceManager Manager { get; set; }

Information about the resource manager that manages this device

public string DomainName { get; set; }

Domain name

public string Uuid { get; set; }

Device UUID

public string Hostname { get; set; }

Hostname

public string ProductName { get; set; }

Product names

public string UserDefinedName { get; set; }

User-defined name for the device

public string MachineType { get; set; }

Machine type

public string Model { get; set; }

Device model

public string SerialNumber { get; set; }

Device serial number

public string EntitledSerialNumber { get; set; }

Entitled serial number

public string[] GroupNames { get; set; }

List of IDs for groups that include this device

public string[] Ipv4Addresses { get; set; }

List of IPv4 addresses

public string[] Ipv6Addresses { get; set; }

List of IPV6 addresses

public string PowerStatus { get; set; }

Power status key. This can be one of the following values.

- **Off**
- **On**
- **Standby**
- **Unknown**

public string HealthStatus { get; set; }

Highest severity of all alerts. This can be one of the following values.

- **Normal**
- **Warning**
- **Critical**
- **Unknown**

Methods

public virtual bool Equals (object obj);

Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();

Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();

Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();

Returns a string that represents the current object.

(Inherited from System.Object)

DeviceInventoryData class

This data object contains inventory data for all types of supported devices.

Namespace: Lenovo.XClarityOrchestrator.PowerShell.Data.Devices

Assembly: Lenovo.XClarityOrchestrator.PowerShell.Data

Properties

public string Id { get; set; }

Device ID

Note: Tip: The device ID includes the UUID of the device and the UUID of the resource manager that manages the device, separated by a dash (deviceUUID–managerUUID).

public string DeviceType { get; set; }

Device type.

public DevicePowerSupply[] PowerSupplies { get; set; }

Details about power supplies included in this device.

Methods

public virtual bool Equals (object obj);

Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();

Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();

Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();

Returns a string that represents the current object.

(Inherited from System.Object)

DeviceLocation class

This data object contains location information for a specific device.

Namespace: Lenovo.SysMgmt.LXCO.Integration.Data

Assembly: Lenovo.SysMgmt.LXCO.Integration.Data

Properties

public int LowestRackUnit { get; set; }

Lowest rack unit

public string Location { get; set; }

Location

public string Rack { get; set; }

Rack

public string Room { get; set; }

Room

Methods

public virtual bool Equals (object obj);

Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();

Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();

Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();

Returns a string that represents the current object.

(Inherited from System.Object)

DeviceManager class

This data object contains information about the resource manager that manages a device.

Namespace: Lenovo.SysMgmt.LXCO.Integration.Data

Assembly: Lenovo.SysMgmt.LXCO.Integration.Data

Properties

public string Id { get; set; }

Resource manager ID

public string Hostname { get; set; }

Resource manager host name

public string DomainName { get; set; }

Resource manager domain name

public string[] Ipv4Addresses { get; set; }

Resource manager IPv4 addresses

public string[] Ipv6Addresses { get; set; }

Resource manager IPv6 addresses

Methods

public virtual bool Equals (object obj);

Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();

Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();

Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();

Returns a string that represents the current object.

(Inherited from System.Object)

DeviceParent class

This data object contains parent information for a specific device.

Namespace: Lenovo.SysMgmt.LXCO.Integration.Data

Assembly: Lenovo.SysMgmt.LXCO.Integration.Data

Properties

public string Uuid { get; set; }

Parent UUID

public string Uri { get; set; }

Parent URI

Methods

public virtual bool Equals (object obj);

Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();

Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();

Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();

Returns a string that represents the current object.

(Inherited from System.Object)

DevicePattern class

This data object contains information about the server-confirmation pattern that is assigned to a specific device.

Namespace: Lenovo.SysMgmt.LXCO.Integration.Data

Assembly: Lenovo.SysMgmt.LXCO.Integration.Data

Properties

public string Id { get; set; }

Pattern ID

public string Name { get; set; }

Pattern name

public string ComplianceStatus { get; set; }

Compliance status

Methods

public virtual bool Equals (object obj);

Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();

Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();

Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();

Returns a string that represents the current object.

(Inherited from System.Object)

DevicePowerSupply class

This data object contains power supply data.

Namespace: Lenovo.XClarityOrchestrator.PowerShell.Data.Devices

Assembly: Lenovo.XClarityOrchestrator.PowerShell.Data

Properties

public string Name { get; set; }

Name.

public string SerialNumber { get; set; }

Serial number.

public string VendorName { get; set; }

Vendor Name.

public string FirmwareRevision { get; set; }

Firmware revision.

public string PartNumber { get; set; }

Part number.

public string Status { get; set; }

Status.

public string Model { get; set; }

Model.

public string Slot { get; set; }

Slot.

Methods

public virtual bool Equals (object obj);

Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();

Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();

Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();

Returns a string that represents the current object.

(Inherited from System.Object)

DeviceServiceDataDetails class

This data object contains information about a device service data archive.

Namespace: Lenovo.XClarityOrchestrator.PowerShell.Data

Assembly: Lenovo.XClarityOrchestrator.PowerShell.Data

Properties

public string ArchiveName{ get; set;}

Archive file name.

public long ArchiveSize { get; set;}

Size of the archive.

public string ArchiveDir{ get; set;}

Location of the archive on the resource-manager host system.

public string ResourceUUID{ get; set;}

UUID of the device that is associated with the service data archive.

public string ResourceName{ get; set;}

Name of the device that is associated with the service data archive.

public string ManagerUUID{ get; set;}

UUID of the resource manager that manages that device.

public DateTime? Timestamp { get; set;}

Timestamp when the archive was saved.

public string ID { get; set;}

Archive ID.

Methods

public virtual bool Equals (object obj);

Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();

Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();

Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();

Returns a string that represents the current object.

(Inherited from System.Object)

DeviceUpdateComponent class

This data object contains information about firmware update for a specific component.

Namespace: Lenovo.SysMgmt.LXCO.Integration.Data

Assembly: Lenovo.SysMgmt.LXCO.Integration.Data

Properties

public string Name { get; set; }

Component name

public string MainComponentName { get; set; }

Main component name

public string bool IsUpgradable { get; set; }

Indicates whether the component can be updated

public string FirmwareActivationStatus { get; set; }

Firmware activation status

public string ComponentID { get; set; }

Component ID

public string PolicyState { get; set; }

Policy state key. This can be one of the following values.

- **NoPolicyAssigned**
- **PolicyAssigned**

public LXCOComponentVersion TargetVersion { get; set; }

Information about the target update for the component based on the assigned policy

If a policy is not assigned, this value is null.

public LXCOComponentVersion Version { get; set; }

Information about the update that is currently installed for the component

public ComponentCVEDetails CVEDetails { get; set; }

Information about available CVEs for the update

Methods

public virtual bool Equals (object obj);

Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();

Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();

Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();

Returns a string that represents the current object.

(Inherited from System.Object)

DeviceUpdates class

This data object contains information about firmware updates for a specific device.

Namespace: Lenovo.SysMgmt.LXCO.Integration.Data

Assembly: Lenovo.SysMgmt.LXCO.Integration.Data

Properties

public string Identifier { get; set; }

Update ID

public string PolicyState { get; set; }

Policy state. This can be one of the following values.

- **NoPolicyAssigned**
- **PolicyAssigned**

public DeviceUpdatesPolicy Policy { get; set; }

Information about the update-compliance policy that is assigned to a device

If a policy is not assigned, this value is null.

public DeviceCVEDetails CVEDetails { get; set; }

Information about available CVEs for the update

public DeviceUpdateComponent[] Components { get; set; }

Information about all available update components

Methods

public virtual bool Equals (object obj);

Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();

Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();

Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();

Returns a string that represents the current object.

(Inherited from System.Object)

DeviceUpdatesPolicy class

This data object contains information about the update-compliance policy that is assigned to a specific device.

Namespace: Lenovo.SysMgmt.LXCO.Integration.Data

Assembly: Lenovo.SysMgmt.LXCO.Integration.Data

Properties

public string Id { get; set; }

Policy ID

public string Name { get; set; }

Policy name

Methods

public virtual bool Equals (object obj);

Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();

Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();

Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();

Returns a string that represents the current object.

(Inherited from System.Object)

DeviceWarranty class

This data object contains warranty information for a specific device.

Namespace: Lenovo.SysMgmt.LXCO.Integration.Data

Assembly: Lenovo.SysMgmt.LXCO.Integration.Data

Properties

public string Number { get; set; }

Warranty number. This can be one of the following values.

- 3PL

- **3XL**

public DateTime? StartTimestamp { get; set; }

Warranty start date

public DateTime? EndTimestamp { get; set; }

Warranty expiration date

public string Status { get; set; }

Warranty status key. This can be one of the following values.

- **Active**
- **Expired**
- **Retrieving Data**
- **null**

Methods

public virtual bool Equals (object obj);

Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();

Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();

Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();

Returns a string that represents the current object.

(Inherited from System.Object)

EventData class

This data object contains basic information about a specific audit or resource event.

Namespace: Lenovo.XClarityOrchestrator.PowerShell.Data.Alerts

Assembly: Lenovo.XClarityOrchestrator.PowerShell.Data

Properties

public string Message { get; set; }

Message string for the event.

public string ID { get; set; }

Event ID that was generated by XClarity Orchestrator.

public DateTime? Timestamp { get; set; }

Timestamp when the log entry was added to the XClarity Orchestrator log.

public string ResourceName { get; set; }

Name of the resource on which the event occurred.

public string ResourceType { get; set; }

Type of resource on which the event occurred. This can be one of the following values.

- **Chassis**
- **Server**
- **LXCA**. XClarity Administrator
- **LXCO**. XClarity Orchestrator
- **Storage**
- **Switch**

public string Service { get; set; }
Service that generated the event.

public string Severity { get; set; }
Severity. This can be one of the following values.

- **Informational**. Information only. No action is necessary.
- **Warning**. User can decide if action is needed.
- **Critical**. Action is needed immediately, and the scope is broad (perhaps an imminent outage to a critical resource will result).

public string SourceType { get; set; }
Alert source; this can be one of the following values.

- **Analytics**
- **Device**
- **Management**
- **System**

public string EventCode { get; set; }
Event ID that is generated by Lenovo XClarity Administrator.

public ManagerGroup[] Groups { get; set; }
Information about group of which this resource is a member.

Methods

public virtual bool Equals (object obj);
Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();
Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();
Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();
Returns a string that represents the current object.

(Inherited from System.Object)

EventFullData class

This data object contains information about .

Namespace: Lenovo.XClarityOrchestrator.PowerShell.Data.Alerts

Assembly: Lenovo.XClarityOrchestrator.PowerShell.Data

Properties

public bool IsLocal { get; set; }

Indicates whether the event was generated locally (by XClarity Orchestrator).

public string SourceID { get; set; }

ID of the resource on which the event occurred.

public string ComponentID { get; set; }

ID of the component that generated the event.

public string Description { get; set; }

Additional information to clarify the reason for the event.

public string UserAction { get; set; }

User actions that can be taken to recover from the error.

public string RecoveryURL { get; set; }

Link to more information or recovery actions, if available.

public string[] Flags { get; set; }

List of flags. This can be one of the following values.

- **Excluded.** The event is displayed only in diagnostic logs. The event is excluded from normal log and analytics views.
- **Hidden.** The event is displayed only in diagnostic logs. The event is excluded from normal log and analytics views. This value must be specified for internal communication.
- **Historical.** The event occurred while the orchestrator server was down and can be ignored by EventActions.
- **Ignored.** The event is ignored.
- **Recovered.** The event was involved in the reliable event recovery process.
- **Unsequenced.** Switch system traps are not sequenced. Reliable event recovery is skipped.

public string UserID { get; set; }

ID of the logged in user who created the event.

public string Action { get; set; }

Action category. This can be one of the following values.

- **Inventory**
- **IP**
- **None** (default)
- **Topology**

public string EventClass { get; set; }

Event source. This can be one of the following values.

- **Adaptor**
- **Audit**
- **Blade**
- **Cooling**
- **Disks**
- **Expansion**
- **IOModule**
- **Analytics**
- **Memory**
- **Power**
- **Processors**
- **Switch**
- **System**
- **Test**

- **Unknown** (default)

public string[] Args { get; set; }

List of dynamic arguments in the event message string, separated by a comma.

public string[] FailFRUNumbers { get; set; }

(Hardware fault events only) List of numbers for FRUs that are associated to the fault.

public string[] FailFRUSNs { get; set; }

(Hardware fault events only) List of serial numbers for FRUs associated to the fault.

public string[] FailFRUUUIDs { get; set; }

(Hardware fault events only) List of UUIDs for FRUs that are associated to the fault.

public string FRUType { get; set; }

(Hardware fault events only) Type of field replaceable unit (FRU) for the component that raised the event.

public string MessageID { get; set; }

Message ID for the event.

public DateTime? EventTimeStamp { get; set; }

Timestamp when the event was generated.

public string CommonEventCode { get; set; }

Common event ID.

public string SequenceNumber { get; set; }

Event sequence number, which uniquely identifies this event on the audit or event log. This number indicates the order in which the events were processed.

public string Details { get; set; }

Details for this event.

public DeviceInAlert Device { get; set; }

Information about the device which the event occurred, if applicable.

public ManagerInAlert Manager { get; set; }

Information about the resource manager that manages the device.

public string ComponentType { get; set; }

Type of the component that generated the alert.

public string SourceType { get; set; }

Source of the alert. This can be one of the following value.

- **Analytics**
- **Device**
- **Management**
- **System**

public string IPAddress { get; set; }

IP address of the resource on which the event occurred.

Methods

public virtual bool Equals (object obj);

Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();

Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();

Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();

Returns a string that represents the current object.

(Inherited from System.Object)

FanData class

This data object contains fan data.

Namespace: Lenovo.XClarityOrchestrator.PowerShell.Data.Devices

Assembly: Lenovo.XClarityOrchestrator.PowerShell.Data

Properties

public string Name { get; set;}

Fan name.

public string Status { get; set;}

Fan status.

public string Speed { get; set;}

Fan speed.

public string Description { get; set;}

Fan description.

public string HealthState { get; set;}

Fan health state. This can be one of the following values.

- **Normal**
- **Non-Critical**
- **Warning**
- **Minor-Failure**
- **Major-Failure**
- **Non-Recoverable**
- **Critical**
- **Unknown**

public string Model { get; set;}

Model.

public string SerialNumber { get; set;}

Serial number.

public string Slot { get; set;}

Fan slot.

Methods

public virtual bool Equals (object obj);

Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();

Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();

Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();

Returns a string that represents the current object.

(Inherited from System.Object)

FanMultiplexors class

This data object contains fan multiplexor data.

Namespace: Lenovo.XClarityOrchestrator.PowerShell.Data.Devices

Assembly: Lenovo.XClarityOrchestrator.PowerShell.Data

Properties

public string SerialNumber { get; set;}

Serial number.

public string Bay { get; set;}

Device bay.

public string Status { get; set;}

Status.

public string Name { get; set;}

Name.

public string Model { get; set;}

Model.

public string ProductName { get; set;}

Product name.

public string FruSerialNumber { get; set;}

FRU serial number.

public string PartNumber { get; set;}

Part number.

public string FRU { get; set;}

FRU.

Methods

public virtual bool Equals (object obj);

Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();

Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();

Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();

Returns a string that represents the current object.

(Inherited from System.Object)

FirmwareCatalogEntry class

This data object contains information about a component in the updates catalog.

Namespace: Lenovo.SysMgmt.LXCO.Integration.Data

Assembly: Lenovo.SysMgmt.LXCO.Integration.Data

Properties

public string Name { get; set; }

Platform name

public string Id { get; set; }

Platform ID

public string Type { get; set; }

Catalog entry type. This is always **Platform**.

public string MachineType { get; set; }

Machine type. This can be one of the following values.

- **LXCA**. Lenovo XClarity Administrator resource manager
- **RepoPack**. Lenovo XClarity Administrator repository pack
- *machine type*. Device machine type

public string GeneralStatus { get; set; }

Download status key. This can be one of the following values.

- **Applied**
- **Applying**
- **Downloaded**
- **Downloading**
- **NotDownloaded**
- **PendingApply**
- **PendingDownload**
- **PartiallyApplied**
- **PartiallyDownloaded**

public double Size { get; set; }

Total size of the catalog, in GB

public double UsedSize { get; set; }

Downloaded size, in GB

public int AvailableUpdates { get; set; }

Total number of update packages in the catalog

public int DownloadedUpdates { get; set; }

Number of downloaded update packages

public int AppliedUpdates { get; set; }

Number of applied update packages

Methods

public virtual bool Equals (object obj);

Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();

Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();

Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();

Returns a string that represents the current object.

(Inherited from System.Object)

FirmwareComponent class

This data object contains information about a firmware component.

Namespace: Lenovo.SysMgmt.LXCO.Integration.Data

Assembly: Lenovo.SysMgmt.LXCO.Integration.Data

Inheritance -> Object -> [PlatformComponent class](#)

Properties

public string Severity { get; set; }

Update severity (translated). This can be one of the following values.

- **InitialRelease.** This is the first release of the update.
- **Critical.** The update contains urgent fixes for data corruption, security, or stability issues.
- **PackageSuggested.** The update contains significant fixes for problems that you are likely to encounter.
- **NonCritical.** The update contains minor fixes, performance enhancements, and textual changes.

public LXCOComponentVersionVersion { get; set; }

Update package version

public DeviceUpdatesPolicy[] Policies { get; set; }

Information about the policies that are associated with the update, if applicable

public DeviceCVE[] DeviceCVEs { get; set; }

Information about common vulnerabilities and exposures (CVEs) that were fixed in this update package.

Methods

public virtual bool Equals (object obj);

Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();

Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();

Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();

Returns a string that represents the current object.

(Inherited from System.Object)

LXCComponentVerion class

This data object contains information about the component version.

Namespace: Lenovo.SysMgmt.LXCO.Integration.Data

Assembly: Lenovo.SysMgmt.LXCO.Integration.Data

Properties

public string Identifier { get; set; }

Version ID

public string Number { get; set; }

Version number

public DateTime? ReleaseTimestamp { get; set; }

Timestamp when the version was released

Methods

public virtual bool Equals (object obj);

Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();

Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();

Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();

Returns a string that represents the current object.

(Inherited from System.Object)

LXCConnection class

This data object contains information about the current connection to Lenovo XClarity Orchestrator.

This object is read-only and can be instantiated only using the [Connect-LXCO](#) cmdlet.

Namespace: Lenovo.XClarityOrchestrator.PowerShell.Data

Assembly: Lenovo.XClarityOrchestrator.PowerShell.Data

Properties

public string Id { get; }

Session ID of the current connection to XClarity Orchestrator

public bool IsConnected { get; }

Indicates whether this user session is connected to XClarity Orchestrator. This can be one of the following values.

- **true.** This user session is connected to XClarity Orchestrator.
- **false.** This user session is dropped.

public string Host { get }

XClarity Orchestrator IP address or hostname

public int Port { get; }

XClarity Orchestrator port that is used for this connection

public int Timeout { get; }

Number of seconds that the cmdlet waits for an HTTPS response from XClarity Orchestrator

public string UserName { get; }

Name of the user that is authenticated to this session

public DateTime? LoginTime { get; }

Timestamp when the connection to XClarity Orchestrator was established

public DateTime? LogoutTime { get; }

Timestamp when the connection to XClarity Orchestrator was dropped

public Version LXCOVersion { get; }

Gets the version of the XClarity Orchestrator server

Methods

public virtual bool Equals (object obj);

Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();

Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();

Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();

Returns a string that represents the current object.

(Inherited from System.Object)

LXCOJob class

This data object contains information about a job.

Namespace: Lenovo.XClarityOrchestrator.PowerShell.Data

Assembly: Lenovo.XClarityOrchestrator.PowerShell.Data

Properties

public LXCOJobCategory Category { get; set;}

Job type.

public string CreatedBy { get; set;}

Name of the user that initiated the job. If the job was created automatically, the value is **Orchestrator Server**.

public int Id { get; set;}

Job id.

public string Title { get; set;}

Job description.

public int Percentage { get; set;}

Percentage complete of the job (from 0 - 100).

For jobs with subtasks, this is the average of the percentages of the subtasks.

public LXCOJobStatus Status { get; set;}

Job state. For a job with subtasks, this is most severe status of all subtasks.

public DateTime? StartTimeStamp { get; set;}

Timestamp when the job was started, null if not available.

public DateTime? EndTimeStamp { get; set;}

Timestamp when the job completed, null if not available.

public LXCOJobTarget Target { get; set;}

Information about the target resources.

public LXCOJobLog JobLog { get; set;}

Information about the logs attached to this job.

Methods

public virtual bool Equals (object obj);

Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();

Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();

Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();

Returns a string that represents the current object.

(Inherited from System.Object)

LXCOJobCategory enum

This data object contains the job type.

Namespace: Lenovo.XClarityOrchestrator.PowerShell.Data

Assembly: Lenovo.XClarityOrchestrator.PowerShell.Data

Inheritance > Object > ValueType > Enum > LXCOJobCategory

Values

- Analytics
- Backup
- Service
- Configuration
- Custom
- Firmware
- Health
- Inventory
- Management
- OsDeployment
- OsDriverUpdates
- OsImport
- OsProfileExport
- Power
- RemoteAccess
- SelfMaintenance
- SwitchConfiguration
- SystemID
- Unknown

LXCOJobFullData class

This data object contains detailed information about a job.

Namespace: Lenovo.SysMgmt.LXCO.Integration.Data

Assembly: Lenovo.SysMgmt.LXCO.Integration.Data

Inheritance > Object > [LXCOJob](#)

Properties

public UserID { get; set;}

User who initiated this job.

public DateTime? CreationTimeStamp { get; set;}

Timestamp when the job was created.

public string[] TitleArgs { get; set;}

List of arguments included in the job title.

public LXCOJobTarget[] Targets { get; set;}

Information about the target resource.

public LXCOJobSummary Summary { get; set;}

Summary information about the job.

public LXCOJobFullData[] Children { get; set;}

Information about each subtask for this job.

Methods

public virtual bool Equals (object obj);

Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();

Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();

Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();

Returns a string that represents the current object.

(Inherited from System.Object)

LXCOJobLog class

This data object contains information about the log attached to this job.

Namespace: Lenovo.XClarityOrchestrator.PowerShell.Data

Assembly: Lenovo.XClarityOrchestrator.PowerShell.Data

Properties

public string Message { get; set;}

Job message.

public DateTime? Description { get; set;}

Timestamp when the entry was added to the jobs log.

public string Severity { get; set;}

Job severity key. This can be one of the following values.

- **Informational.** The task started or ended successfully.
- **Warning.** The task completed, but there are some problems that the user must be aware of.
- **Critical.** The task failed.
- **Unknown.** The severity is not known.

Methods

public virtual bool Equals (object obj);

Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();

Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();

Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();

Returns a string that represents the current object.

(Inherited from System.Object)

LXCOJobStatus enum

This data object contains the job status.

Namespace: Lenovo.XClarityOrchestrator.PowerShell.Data

Assembly: Lenovo.XClarityOrchestrator.PowerShell.Data

Attributes: FlagsAttribute

Inheritance > Object > ValueType > Enum > LXCOJobStatus

Values

- **Aborted** (0x00000001)
- **Blocked** (0x00000002)
- **Cancelled** (0x00000004)
- **CancelledWithErrors** (0x00000008)
- **CancelledWithWarnings** (0x00000010)
- **Cancelling** (0x00000020)
- **Complete** (0x00000040)
- **CompleteWithErrors** (0x00000080)
- **CompleteWithWarnings** (0x00000100)
- **Expired** (0x00000200)
- **Initializing** (0x00000400)
- **Interrupted** (0x00000800)
- **InterruptedWithErrors** (0x00001000)
- **InterruptedWithWarnings** (0x00002000)
- **Investigating** (0x00004000)
- **Pending** (0x00008000)
- **Resolved** (0x00010000)
- **Running** (0x00020000)
- **RunningWithErrors** (0x00040000)
- **RunningWithWarnings** (0x00080000)
- **Skipped** (0x00100000)
- **Stopped** (0x00200000)
- **StoppedWithErrors** (0x00400000)
- **StoppedWithWarnings** (0x00800000)
- **Uploading** (0x01000000)
- **Validating** (0x02000000)
- **Waiting** (0x04000000)
- **Unknown** (0x80000000)

LXCOJobSummary class

This data object contains summary information about a job.

Namespace: Lenovo.SysMgmt.LXCO.Integration.Data

Assembly: Lenovo.SysMgmt.LXCO.Integration.Data

Properties

public string Title { get; set;}

Summary title.

public string Description { get; set;}

Job description.

public string Action { get; set;}

Recovery actions to perform to resolve the problem, if appropriate.

public string Severity { get; set;}

Job severity. This can be one of the following values.

- **Informational.** Information only. No action is necessary.
- **Warning.** User can decide if action is needed.
- **Critical.** Action is needed immediately, and the scope is broad (perhaps an imminent outage to a critical resource will result).

Methods

public virtual bool Equals (object obj);

Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();

Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();

Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();

Returns a string that represents the current object.

(Inherited from System.Object)

LXCOJobTarget class

This data object contains information about the target resource of a job.

Namespace: Lenovo.SysMgmt.LXCO.Integration.Data

Assembly: Lenovo.SysMgmt.LXCO.Integration.Data

Properties

public string Type { get; set;}

Type of resource. This can be one of the following values.

- **Chassis**
- **Server**
- **XClarity Administrator**
- **XClarity Orchestrator**
- **Schneider Electric EcoStruxure IT Expert**
- **Storage**
- **Switch**

public string ID { get; set;}

ID of the target resource.

public string Name { get; set;}

Name of the target resource.

Methods

public virtual bool Equals (object obj);

Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();

Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();

Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();

Returns a string that represents the current object.

(Inherited from System.Object)

LXCORestResponse class

This data object contains information about the executed REST API.

Namespace: Lenovo.SysMgmt.LXCO.Integration.Data

Assembly: Lenovo.SysMgmt.LXC.Integration.Data

Properties

public string ResourceUri { get; set;}

Rsource for which this response is returned

public HttpStatusCode ResponseStatusCode { get; set;}

HTTP Status Code returned by the REST API call

public string ResponseBody { get; set;}

Response, in JSON format, returned by the REST API call

public string LocationHeaderValue { get; set;}

Location header value if REST call returns this header, otherwise null

public DateTime RequestTimeStamp { get; set;}

Time and date when the request was started

public string OutFile { get; set;}

If requested, this property contains the fully qualified name of the file that contains REST call result. Otherwise, this property is set to null.

Methods

public virtual bool Equals (object obj);

Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();

Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();

Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();

Returns a string that represents the current object.

(Inherited from System.Object)

ManagerConnection class

This data object contains information about connection settings for a resource manager.

Namespace: Lenovo.XClarityOrchestrator.PowerShell.Data.Manager

Assembly: Lenovo.XClarityOrchestrator.PowerShell.Data

Properties

public string Hostname { get; set; }

Resource manager host name.

public int Port { get; set; }

Resource manager port.

public string Url { get; set; }

Resource manager URL

Information is available only for Schneider Electric EcoStruxure IT Expert. The value is null for all other resource managers.

Methods

public virtual bool Equals (object obj);

Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();

Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();

Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();

Returns a string that represents the current object.

(Inherited from System.Object)

ManagerData class

This data object contains high-level information about a resource manager.

Namespace: Lenovo.XClarityOrchestrator.PowerShell.Data.Manager

Assembly: Lenovo.XClarityOrchestrator.PowerShell.Data

Properties

public string Id { get; set; }

Resource manager ID.

public [ManagerHealthState](#) HealthState { get; set; }

Resource manager health state. This can be one or more of the following values, separated by a comma.

public string Name { get; set; }

Resource manager name.

public string ManagerType { get; set; }

Type of resource manager. This can be one of the following values.

- **Schneider EcoStruxure IT**
- **vRealize Operations Manager**
- **XClarity Administrator**
- **XClarity Orchestrator**

public DateTime? ConnectTimestamp { get; set; }

Timestamp when the resource manager was registered with XClarity Orchestrator.

public [ResourceManagerGroup](#)[] Groups { get; set; }

Information about each group in which this resource manager is a member.

public [ResourceManagerOptions](#) Options { get; set; }

Information about resource-manager options.

public [ManagerDetails](#) Details { get; set; }

Information about the resource-manager properties.

Methods

public virtual bool Equals (object obj);

Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();

Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();

Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();

Returns a string that represents the current object.

(Inherited from System.Object)

ManagerDetails class

This data object contains information about properties of a resource manager.

Namespace: Lenovo.XClarityOrchestrator.PowerShell.Data.Manager

Assembly: Lenovo.XClarityOrchestrator.PowerShell.Data

Properties

public string Uuid { get; set; }

Resource manager UUID.

public Version Version { get; set; }

Resource manager version.

public int BuildNumber { get; set; }

Resource manager build number.

The value is **-1** if this the build number is not available.

public string ForwarderID { get; set; }

ID of the event forwarder that pushes events to this Lenovo XClarity Orchestrator instance.

Information is available only for Lenovo XClarity Administrator. The value is null for all other resource managers.

public string MetricsSubscriptionID { get; set; }

ID of the metrics subscription that pushes metrics to this Lenovo XClarity Orchestrator instance.

Information is available only for Lenovo XClarity Administrator. The value is null for all other resource managers.

public [ManagerNetworkSettings](#) NetworkSettings { get; set; }

Information about network settings for the resource manager.

Methods

public virtual bool Equals (object obj);

Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();

Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();

Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();

Returns a string that represents the current object.

(Inherited from System.Object)

ManagerFullData class

This data object contains detailed information about a resource manager.

Namespace: Lenovo.XClarityOrchestrator.PowerShell.Data.Manager

Assembly: Lenovo.XClarityOrchestrator.PowerShell.Data

Inheritance > Object > [ManagerData](#)

Properties

public string [] Issues { get; set; }

Reason for an unhealthy status. If the health state is **Normal**, this property is null.

public DateTime? LastInventorySyncTimestamp { get; set; }

Timestamp when Lenovo XClarity Orchestrator last refreshed inventory for the resource manager.

public DateTime? LastSyncTimestamp { get; set; }

Timestamp when XClarity Orchestrator last refreshed details about the resource manager.

public string AuthSource { get; set; }

Name of the authentication source for users and groups for the VMware vRealize Operations Manager resource manager.

Information is available only for VMware vRealize Operations Manager. The value is null for all other resource managers.

public [ManagerConnection](#) Connection { get; set; }

Information about connection settings.

public [ManagerUpdates](#) Updates { get; set; }

Information about the update history for the resource manager.

Information is available only for Lenovo XClarity Administrator and Schneider Electric EcoStruxure IT Expert. The value is null for all other resource managers.

Methods

public virtual bool Equals (object obj);

Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();

Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();

Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();

Returns a string that represents the current object.

(Inherited from System.Object)

ManagerGroup class

This data object contains information about the group in which a resource manager is a member.

Namespace: Lenovo.XClarityOrchestrator.PowerShell.Data.Manager

Assembly: Lenovo.XClarityOrchestrator.PowerShell.Data

Properties

public string Id { get; set; }

Group ID.

public string Name { get; set; }

Group name.

public string GroupType { get; set; }

Group type. This value is always **ManagerGroup**.

public string GroupUri { get; set; }

Group URI.

Methods

public virtual bool Equals (object obj);

Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();

Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();

Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();

Returns a string that represents the current object.

(Inherited from System.Object)

ManagerHealthState enum

This data object contains the health state of a resource manager.

Namespace: Lenovo.XClarityOrchestrator.PowerShell.Data.Manager

Assembly: Lenovo.XClarityOrchestrator.PowerShell.Data

Inheritance > Object > ValueType > Enum > ManagerHealthState

Values

- Normal
- NonCritical
- Warning
- MinorFailure
- MajorFailure
- NonRecoverable
- Critical
- Unknown

ManagerInAlert class

This data object contains information about resource manager that manages the device.

Namespace: Lenovo.XClarityOrchestrator.PowerShell.Data.Alerts

Assembly: Lenovo.XClarityOrchestrator.PowerShell.Data

Properties

public string ID { get; set; }
Resource manager ID.

public ManagerGroup [] Groups { get; set; }
Information about groups in which the manager is a member.

public string URI { get; set; }

Methods

public virtual bool Equals (object obj);
Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();
Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();
Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();
Returns a string that represents the current object.

(Inherited from System.Object)

ManagerNetworkSettings class

This data object contains information about network settings for a resource manager.

Namespace: Lenovo.XClarityOrchestrator.PowerShell.Data.Manager

Assembly: Lenovo.XClarityOrchestrator.PowerShell.Data

Properties

public string Hostname { get; set; }

Host name.

public string DomainName { get; set; }

Domain name.

public string [] Ipv4Addresses { get; set; }

List of IPv4 addresses.

public string [] Ipv6Addresses { get; set; }

List of IPv6 addresses.

Methods

public virtual bool Equals (object obj);

Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();

Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();

Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();

Returns a string that represents the current object.

(Inherited from System.Object)

ManagerOptions class

This data object contains information about the options for a resource manager.

Namespace: Lenovo.XClarityOrchestrator.PowerShell.Data.Manager

Assembly: Lenovo.XClarityOrchestrator.PowerShell.Data

Properties

public bool EnableDriveAnalyticsData { get; set; }

Indicates whether drive analytics data collection is enabled. This can be one of the following values.

- **true**. Drive analytics data collection is enabled.
- **false**. Drive analytics data collection is disabled.

Information is available only for Lenovo XClarity Administrator v3.3 and later. The value is null for all other resource managers.

Methods

public virtual bool Equals (object obj);

Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();

Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();

Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();

Returns a string that represents the current object.

(Inherited from System.Object)

ManagerUpdatePolicyState enum

This data object contains the update-compliance state of a resource manager based on the assigned update-compliance policy.

Namespace: Lenovo.XClarityOrchestrator.PowerShell.Data.Manager

Assembly: Lenovo.XClarityOrchestrator.PowerShell.Data

Inheritance > Object > ValueType > Enum > ManagerUpdatePolicyState

Values

- **PolicyAssigned.** A policy is assigned.
- **NoPolicyAssigned.** A policy is not assigned.

ManagerUpdates class

This data object contains information about the update history for a resource manager.

Namespace: Lenovo.XClarityOrchestrator.PowerShell.Data.Manager

Assembly: Lenovo.XClarityOrchestrator.PowerShell.Data

Properties

public string Identifier { get; set; }

Update ID.

public ManagerUpdatePolicyState PolicyState { get; set; }

Policy state.

public ManagerUpdatesPolicy Policy { get; set; }

Information about the update-compliance policy that is assigned to this device.

If a policy is not assigned, this value is null.

public [ManagerUpdateComponent\[\]](#) Components { get; set; }
Information about each update component.

Methods

public virtual bool Equals (object obj);
Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();
Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();
Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();
Returns a string that represents the current object.

(Inherited from System.Object)

ManagerUpdateComponent class

This data object contains information about an update component.

Namespace: Lenovo.XClarityOrchestrator.PowerShell.Data.Manager

Assembly: Lenovo.XClarityOrchestrator.PowerShell.Data

Properties

public string Name { get; set; }
Component name.

public bool IsUpgradeable { get; set; }
Indicates whether the component can be updated.

- **true.** The component can be updated.
- **false.** The component cannot be updated.

public string ComponentID { get; set; }
Component ID.

public [ManagerUpdateVersion](#) TargetVersion { get; set; }
Information about the target update for the component based on the assigned policy.

public [ManagerUpdateVersion](#) Version { get; set; }
Information about the update that is currently installed for the component.

Methods

public virtual bool Equals (object obj);
Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();
Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();

Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();

Returns a string that represents the current object.

(Inherited from System.Object)

ManagerUpdatesPolicy class

This data object contains information about the update-compliance policy that is assigned to a resource manager.

Namespace: Lenovo.XClarityOrchestrator.PowerShell.Data.Manager

Assembly: Lenovo.XClarityOrchestrator.PowerShell.Data

Properties

public string Id { get; set; }

Policy ID.

public string Name { get; set; }

Policy name.

Methods

public virtual bool Equals (object obj);

Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();

Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();

Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();

Returns a string that represents the current object.

(Inherited from System.Object)

ManagerUpdateVersion class

This data object contains information about the version of an update package.

Namespace: Lenovo.XClarityOrchestrator.PowerShell.Data.Manager

Assembly: Lenovo.XClarityOrchestrator.PowerShell.Data

Properties

public string Identifier { get; set; }
Version ID.

public string Number { get; set; }
Version number.

public DateTime? ReleaseTimestamp { get; set; }
Timestamp when the version was released.

Methods

public virtual bool Equals (object obj);
Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();
Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();
Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();
Returns a string that represents the current object.

(Inherited from System.Object)

PCIDevice class

This data object contains PCI extension card data.

Namespace: Lenovo.XClarityOrchestrator.PowerShell.Data.Devices

Assembly: Lenovo.XClarityOrchestrator.PowerShell.Data

Properties

public DeviceFirmware[] Firmware { get; set;}
Device firmware properties.

public PCIDevicePhysicalPort[] PortInfo { get; set;}
Information about the physical ports.

public string PCIRevision { get; set;}
PCI revision.

public string PCIBusNumber { get; set;}
PCI bus number.

public string PCIDeviceNumber { get; set;}
PCI device number.

public string SlotNumber { get; set;}
PCI slot number.

public string PCIFunctionNumber { get; set;}

PCI function number.

public string Manufacturer { get; set;}

Manufacturer of this device.

public string ProductName { get; set;}

Product name.

public string PartNumber { get; set;}

Device part number.

public string FRUSerialNumber { get; set;}

FRU serial number.

public string SlotName { get; set;}

Slot name.

public string PCISubID { get; set;}

PCI sun ID.

public string FODUniqueID { get; set;}

FoD unique ID.

public string PCISubVendorID { get; set;}

PCI sub-vendor ID.

public string FRU { get; set;}

FRU part number.

public string PosID { get; set;}

Position ID.

public string VpdID { get; set;}

VPD id.

public string DeviceClass { get; set;}

Class (basic function) of the PCI device. This can be one of the following values.

- **Bridge**
- **Communication controller**
- **Coprocessor**
- **Display controller**
- **Docking station**
- **Encryption controller**
- **Generic system peripheral**
- **Input device controller**
- **Intelligent controller**
- **Mass storage controller**
- **Memory controller**
- **Multimedia controller**
- **Network controller**
- **Non-Essential Instrumentation**
- **Processing accelerators**
- **Processor**
- **Satellite communications controller**
- **Serial bus controller**
- **Signal processing controller**
- **Unassigned class**
- **Unclassified device**
- **Unknown device**
- **Wireless controller**

public bool SlotSupportsHotPlug { get; set;}

Identifies whether this PCI slot supports hot plug. This can be one of the following values.

- **true**. The PCI slot supports hot plug.
- **false**. The PCI slot does not support hot plug.

public bool IsAgentless { get; set;}

Identifies whether the device is agentless. This can be one of the following values.

- **true**. The device is agentless.
- **false**. The device is not agentless.

public bool IsPLDMUpdateSupported { get; set;}

Identifies whether the Platform Level Data Model updates are supported. This can be one of the following values.

- **true**. PLDM update is supported.
- **false**. PLDM update is not supported.

Methods**public virtual bool Equals (object obj);**

Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();

Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();

Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();

Returns a string that represents the current object.

(Inherited from System.Object)

PCIDeviceLogicalPort class

This data object contains associated logical port data.

Namespace: Lenovo.XClarityOrchestrator.PowerShell.Data.Devices

Assembly: Lenovo.XClarityOrchestrator.PowerShell.Data

Properties**public string PortType { get; set;}**

Logical port type. This can be one of the following values.

- **ATM**
- **BLUETOOTH**
- **ETHERNET**
- **FC**
- **FDDI**
- **FRAMERELAY**
- **IB**
- **INFRARED**
- **OTHER**

- **TOKENRING**
- **UNKNOWN**
- **WIRELESSLAN**

public string Addresses { get; set;}
Assigned addresses.

public int PortNumber { get; set;}
Number of the logical port.

public int LogicalPortIndex { get; set;}
Number of logical port.

public bool VnicMode { get; set;}
Identifies whether this is a vNIC port. This can be one of the following values.

- **true**. This is a vNIC port.
- **false**. This is not a vNIC port.

Methods

public virtual bool Equals (object obj);
Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();
Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();
Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();
Returns a string that represents the current object.

(Inherited from System.Object)

PCIDevicePhysicalPort class

This data object contains physical port data.

Namespace: Lenovo.XClarityOrchestrator.PowerShell.Data.Devices

Assembly: Lenovo.XClarityOrchestrator.PowerShell.Data

Properties

public PCIDeviceLogicalPort[] LogicalPorts { get; set;}
List of associated logical ports.

public string PortType { get; set;}
Physical port type. This can be one of the following values.

- **ATM**
- **ETHERNET**
- **FC**
- **FDDI**
- **FRAMERELAY**

- **IB**
- **OTHER**
- **TOKENRING**
- **UNKNOWN**

public string Status { get; set;}

Link status. This can be one of the following values.

- **up**
- **down**
- **unknown**

public int PortNumber { get; set;}

Number of the physical port.

public int PeerBay{ get; set;}

Peer Flex switch bay.

public int PhysicalPortIndex { get; set;}

Number of physical ports.

public int Speed { get; set;}

Link speed, in bps.

Methods

public virtual bool Equals (object obj);

Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();

Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();

Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();

Returns a string that represents the current object.

(Inherited from System.Object)

PlatformComponent class

This data object contains information about a platform component..

Namespace: Lenovo.SysMgmt.LXCO.Integration.Data

Assembly: Lenovo.SysMgmt.LXCO.Integration.Data

Properties

public string ID { get; set; }

Component ID

public string Name { get; set; }

Update package name

public string Type { get; set; }
Catalog entry type. This is always **UpdatePackage**.

public string GeneralStatus { get; set; }
Download status

public double Size { get; set; }
Size, in GB

public FirmwareComponent[] Children { get; set; }
List of available firmware

Methods

public virtual bool Equals (object obj);
Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();
Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();
Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();
Returns a string that represents the current object.

(Inherited from System.Object)

RequestStatusMessage class

This data object contains information about the success or failure of a REST API operation.

Namespace: Lenovo.XClarityOrchestrator.PowerShell.Data

Assembly: Lenovo.XClarityOrchestrator.PowerShell.Data

Inheritance > Object > [StatusMessage class](#)

Properties

public StatusMessage[] Messages { get; set; }
Information about multiple messages

Methods

public virtual bool Equals (object obj);
Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();
Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();

Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();

Returns a string that represents the current object.

(Inherited from System.Object)

ResourceManagerUpdateComplianceDetails class

This data object contains information about update compliance for a specific resource manager.

Namespace: Lenovo.XClarityOrchestrator.PowerShell.Data.ResourceManager

Assembly: Lenovo.XClarityOrchestrator.PowerShell.Data

Properties

public string Name { get; set; }

Resource manager name.

public ManagerHealthState HealthState { get; set; }

Manager health state.

public string ID { get; set; }

Resource manager ID.

public string ManagerType { get; set; }

Type of resource manager. This can be one of the following values.

- **XClarity Management Hub**
- **XClarity Administrator**
- **XClarity Orchestrator**
- **Schneider EcoStruxure IT**
- **VMware vRealize Operations Manager**

public DateTime? ConnectTimestamp { get; set; }

Timestamp when the resource manager was registered with XClarity Orchestrator.

public ManagerGroup[] Groups { get; set; }

Information about each group in which this resource manager is a member.

public ManagerUpdates Updates { get; set; }

Information about the updates.

Methods

public virtual bool Equals (object obj);

Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();

Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();

Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();

Returns a string that represents the current object.

(Inherited from System.Object)

ServerDriveInfo class

This data object contains drive data.

Namespace: Lenovo.XClarityOrchestrator.PowerShell.Data.Devices

Assembly: Lenovo.XClarityOrchestrator.PowerShell.Data

Properties

public string SerialNumber { get; set;}

Serial number.

public string Model { get; set;}

Model.

public int Bay { get; set;}

Drive bay.

public int NumberOfBlocks { get; set;}

Number of blocks.

public long BlockSize { get; set;}

Block size.

public long LargestAvailableSize { get; set;}

Largest available size.

public long Capacity { get; set;}

Drive capacity.

public string M2Location { get; set;}

Location of M.2 drive and bay (M.2 drives only).

public string FRU { get; set;}

FRU.

public string PartNumber { get; set;}

Part number.

public string Uuid { get; set;}

Unique identifier.

public string Name { get; set;}

Drive name.

public string Manufacturer { get; set;}

Manufacturer.

public string Temperature { get; set;}

Device temperature.

public string RemainingLife { get; set;}

Indicate the amount of life that remains for a solid-state drive (SSD). This can be one of the following values.

- **0 – 100.** The percent of remaining life

- -1. Unknown(default)
- -2. Information is not available
- -3. The drive is not an SSD.

public string Description { get; set;}
Drive description.

public string DiskState { get; set;}
Disk-drive state.

public string MediaType { get; set;}
Media type.

public string InterfaceType { get; set;}
Drive interface type (ThinkServer servers only).

public string HealthState { get; set;}
Health state that corresponds to the highest event severity of all disk drives in the device. This can be one of the following values.

- **Normal**
- **Non-Critical**
- **Warning**
- **Minor-Failure**
- **Major-Failure**
- **Non-Recoverable**
- **Critical**
- **Unknown**

Methods

public virtual bool Equals (object obj);
Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();
Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();
Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();
Returns a string that represents the current object.

(Inherited from System.Object)

ServerInventoryInfo class

This data object contains inventory data for a chassis device.

Namespace: Lenovo.XClarityOrchestrator.PowerShell.Data.Devices

Assembly: Lenovo.XClarityOrchestrator.PowerShell.Data

Inheritance -> Object -> [DeviceInventoryData class](#)

Properties

public FanData[] Fans { get; set; }

Information about each fan in the device.

public SystemBoardData SystemBoard { get; set; }

Information about the system board.

public ServerProcessor[] Processors { get; set; }

Information about processors installed on this server.

public ServerMemoryModule[] MemoryModules { get; set; }

Information about memory modules installed on this server.

public ServerDriveInfo[] Drives { get; set; }

Information about disk drives in this server.

public PCIDevice[] AddInCards { get; set; }

Extension cards installed on this server.

public PCIDevice[] OnBoardCards { get; set; }

Extension cards embedded on the main board of this server.

Methods

public virtual bool Equals (object obj);

Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();

Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();

Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();

Returns a string that represents the current object.

(Inherited from System.Object)

ServerMemoryModule class

This data object contains server memory module data.

Namespace: Lenovo.XClarityOrchestrator.PowerShell.Data.Devices

Assembly: Lenovo.XClarityOrchestrator.PowerShell.Data

Properties

public int Speed { get; set; }

Number of data-transfer operations that occur in each second, in MT/s (megatransfers per second).

public int Capacity { get; set; }

Capacity.

public int SpeedMBs { get; set; }

Amount of data that is transferred in each second, in MB/s (megabytes per second).

public int Slot { get; set;}

Slot.

public string Model { get; set;}

Model.

public string Manufacturer { get; set;}

Manufacturer.

public string SerialNumber { get; set;}

Serial number.

public string Type { get; set;}

Type.

public string PartNumber { get; set;}

Part number.

Methods

public virtual bool Equals (object obj);

Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();

Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();

Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();

Returns a string that represents the current object.

(Inherited from System.Object)

ServerProcessor class

This data object contains processor data.

Namespace: Lenovo.XClarityOrchestrator.PowerShell.Data.Devices

Assembly: Lenovo.XClarityOrchestrator.PowerShell.Data

Properties

public string Family { get; set;}

Family.

public string ProductVersion { get; set;}

Product version.

public int Slot { get; set;}

Slot.

public int Cores { get; set;}

Number of cores.

```
public float Speed { get; set;}  
    Speed.
```

Methods

```
public virtual bool Equals (object obj);  
    Determines whether the specified object is equal to the current object.
```

(Inherited from System.Object)

```
public virtual int GetHashCode ();  
    Serves as the default hash function
```

(Inherited from System.Object)

```
public Type GetType ();  
    Gets the System.Type of the current instance
```

(Inherited from System.Object)

```
public virtual string ToString ();  
    Returns a string that represents the current object.
```

(Inherited from System.Object)

StatusMessage class

This data object contains information about the success or failure of a REST API operation.

Namespace: Lenovo.XClarityOrchestrator.PowerShell.Data

Assembly: Lenovo.XClarityOrchestrator.PowerShell.Data

Properties

```
public string Status { get; set; }  
    Status of the request. This can be one of the following values.

- Informational. The task started or ended successfully.
- Warning. The task completed, but there are some problems to be aware of.
- Critical. The task failed.

```

In case there are messages in the messages array, then this will be the most severe from all the messages.

```
public string Code { get; set; }  
    Message ID
```

```
public string Text { get; set; }  
    Message text that is associated with the message ID
```

```
public string Description { get; set; }  
    Additional information to clarify the reason for the message
```

```
public string UserAction { get; set; }  
    User actions that can be taken to recover from the error
```

```
public string RecoveryURL { get; set; }  
    Link to more information or recovery actions, if available
```

Methods

public virtual bool Equals (object obj);

Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();

Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();

Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();

Returns a string that represents the current object.

(Inherited from System.Object)

StorageControllerFirmware class

This data object contains canister firmware data.

Namespace: Lenovo.XClarityOrchestrator.PowerShell.Data.Devices

Assembly: Lenovo.XClarityOrchestrator.PowerShell.Data

Properties

public string StorageControllerCpuType { get; set;}

Storage controller CPU type.

public string BundleVersion { get; set;}

Bundle version.

public DateTime? BuildDate { get; set;}

Build date.

public string StorageControllerCodeVersion { get; set;}

Storage controller code version.

public string StorageControllerCodeBaselevel { get; set;}

Storage controller code base level.

public string StorageControllerLoaderCodeVersion { get; set;}

Storage controller loader code version.

public string CapiVersion { get; set;}

CAPI version.

public string ManagementControllerCodeVersion { get; set;}

Management controller code version.

public string ManagementControllerLoaderCodeVersion { get; set;}

Management controller loader code version.

public string ExpanderControllerCodeVersion { get; set;}

Expander controller code version.

public string CpldCodeVersion { get; set;}

CPLD code version.

public string HardwareVersion { get; set;}

Hardware version.

public string HostInterfaceModuleVersion { get; set;}

Host interface module version.

public string HostInterfaceModuleModel { get; set;}

Host interface module model.

public string BackplaneType { get; set;}

Backplane type.

public string HostInterfaceHardwareVersion { get; set;}

Host interface hardware version.

public string DiskInterfaceHardwareVersion { get; set;}

Disk interface hardware version.

public string SCBootMemoryReferenceCodeVersion { get; set;}

SC boot memory reference code version.

Methods

public virtual bool Equals (object obj);

Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();

Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();

Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();

Returns a string that represents the current object.

(Inherited from System.Object)

StorageControllerInfo class

This data object contains storage canister data.

Namespace: Lenovo.XClarityOrchestrator.PowerShell.Data.Devices

Assembly: Lenovo.XClarityOrchestrator.PowerShell.Data

Properties

public string Position { get; set;}

Canister position.

public string SerialNumber { get; set;}

Serial number.

public string Health { get; set;}
Health.

public string MachineType { get; set;}
Machine type.

public string Model { get; set;}
Model.

public string Manufacturer { get; set;}
Manufacturer.

public string FRUSerialNumber { get; set;}
FRU serial number.

public string[] IPv6Addresses { get; set;}
List of IPv6 addresses assigned to this canister.

public string[] IPv4Addresses { get; set;}
List of IPv4 addresses assigned to this canister.

public StorageControllerFirmware Firmware { get; set;}
Canister firmware details.

Methods

public virtual bool Equals (object obj);
Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();
Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();
Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();
Returns a string that represents the current object.

(Inherited from System.Object)

StorageDriveInfo class

This data object contains storage-device data.

Namespace: Lenovo.XClarityOrchestrator.PowerShell.Data.Devices

Assembly: Lenovo.XClarityOrchestrator.PowerShell.Data

Properties

public string Type { get; set;}
Type.

public string Size { get; set;}
Size.

public string SerialNumber { get; set;}
Serial number.

public string VendorName { get; set;}
Vendor name.

public string Model { get; set;}
Model.

Methods

public virtual bool Equals (object obj);
Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();
Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();
Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();
Returns a string that represents the current object.

(Inherited from System.Object)

StorageEnclosureInfo class

This data object contains storage-canister data.

Namespace: Lenovo.XClarityOrchestrator.PowerShell.Data.Devices

Assembly: Lenovo.XClarityOrchestrator.PowerShell.Data

Properties

public int DriveBays { get; set;}
Number of drive bays.

public string SerialNumber { get; set;}
Serial number.

public string Health { get; set;}
Health.

public string RackName { get; set;}
Rack name.

public string RackLocation { get; set;}
Rack location.

public string RackRoom { get; set;}
Rack room.

public int RackPosition { get; set;}
Rack position.

public string VendorName { get; set;}

Vendor name.

public string Model { get; set;}

Model.

Methods

public virtual bool Equals (object obj);

Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();

Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();

Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();

Returns a string that represents the current object.

(Inherited from System.Object)

StorageInventoryInfo class

This data object contains inventory data for a storage device.

Namespace: Lenovo.XClarityOrchestrator.PowerShell.Data.Devices

Assembly: Lenovo.XClarityOrchestrator.PowerShell.Data

Inheritance -> Object -> [DeviceInventoryData class](#)

Properties

public StorageEnclosureInfo EnclosureInfo { get; set;}

General details about this storage.

public StorageDriveInfo[] Drives { get; set;}

Information about disk drives in this storage.

public StorageControllerInfo[] Controllers { get; set;}

Information about each controller in this storage.

Methods

public virtual bool Equals (object obj);

Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();

Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();

Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();

Returns a string that represents the current object.

(Inherited from System.Object)

SwitchInventoryInfo class

This data object contains inventory data for a switch device.

Namespace: Lenovo.XClarityOrchestrator.PowerShell.Data.Devices

Assembly: Lenovo.XClarityOrchestrator.PowerShell.Data

Inheritance -> Object -> [DeviceInventoryData class](#)

Properties

public FanData[] Fans { get; set;}

Information about each fan in the device.

public SystemBoardData SystemBoard { get; set;}

Information about the system board.

Methods

public virtual bool Equals (object obj);

Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();

Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();

Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();

Returns a string that represents the current object.

(Inherited from System.Object)

SystemBoardData class

This data object contains system board data.

Namespace: Lenovo.XClarityOrchestrator.PowerShell.Data.Devices

Assembly: Lenovo.XClarityOrchestrator.PowerShell.Data

Properties

public string ProductName { get; set;}
Product name.

public string Model { get; set;}
Model.

public string MachineType { get; set;}
Device machine type.

public string SerialNumber { get; set;}
Serial number.

public string FRU { get; set;}
FRU.

public string Manufacturer { get; set;}
Manufacturer.

public string PartNumber { get; set;}
Part number.

Methods

public virtual bool Equals (object obj);
Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();
Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();
Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();
Returns a string that represents the current object.

(Inherited from System.Object)

UpdatePolicyData class

This data object contains high-level information about an update compliance-policy.

Namespace: Lenovo.XClarityOrchestrator.PowerShell.Data

Assembly: Lenovo.XClarityOrchestrator.PowerShell.Data

Properties

public string Name { get; set; }
Policy name.

public string Id { get; set; }
Policy ID

public string Type { get; set; }

Policy type (translated). This can be one of the following values.

- **Predefined.** The policy was provided by XClarity Orchestrator.
- **UserDefined.** The policy was created by a user.

public string Description { get; set; }

Policy description

public string ComplianceRule { get; set; }

Indicates when to flag a resource as non-compliant. This can be one of the following values.

- **DoNotFlag.** Devices that are out of compliance are not flagged
- **FlagIfNotExactMatch.** If the software or firmware level that is installed on a resource is not an exact match with the update-compliance policy, the resource is flagged as non-compliant. For example, if you replace a network adapter in a server, and the firmware on that network adapter is different than the level identified in the update-compliance policy, then the server is flagged as non-compliant.

public DateTime? CreationTimestamp { get; set; }

Timestamp when the policy was created

public DateTime? LastEditTimestamp { get; set; }

Timestamp when the policy was edited last

public string Assigned { get; set; }

Policy assignment. This can be one of the following values.

- **Assigned.** The policy is assigned to a resource.
- **NotAssigned.** The policy is not assigned to a resource.

Methods

public virtual bool Equals (object obj);

Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();

Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();

Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();

Returns a string that represents the current object.

(Inherited from System.Object)

UpdatePolicyFullData class

This data object contains detailed information about an update compliance-policy.

Namespace: Lenovo.XClarityOrchestrator.PowerShell.Data

Assembly: Lenovo.XClarityOrchestrator.PowerShell.Data

Inheritance -> Object -> [UpdatePolicyData](#)

Properties

public string[] ResourceIDs { get; set; }

List of IDs of resources to which this policy is assigned

public UpdatePolicyPlatform[] Rules { get; set; }

Information about each rule for this policy

Methods

public virtual bool Equals (object obj);

Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();

Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();

Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();

Returns a string that represents the current object.

(Inherited from System.Object)

UpdatePolicyPlatform class

This data object contains about a platform for an update compliance-policy.

Namespace: Lenovo.XClarityOrchestrator.PowerShell.Data

Assembly: Lenovo.XClarityOrchestrator.PowerShell.Data

Properties

public string PlatformIdentifier { get; set; }

ID of the platform (type of resource) that is associated with the target component.

public string PlatformName { get; set; }

Name of the platform (type of resource) that is associated with the target component.

public UpdatePolicyPlatformCriteria[] Criteria { get; set; }

Information about each criterion for the platform.

Methods

public virtual bool Equals (object obj);

Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();

Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();

Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();

Returns a string that represents the current object.

(Inherited from System.Object)

UpdatePolicyPlatformCriteria class

This data object contains information about criteria for a platform.

Namespace: Lenovo.XClarityOrchestrator.PowerShell.Data

Assembly: Lenovo.XClarityOrchestrator.PowerShell.Data

Properties

public string[] TargetComponentIDs { get; set; }

List of components IDs for this criterion

public string TargetComponentID { get; set; }

Target component ID

public string TargetUpdatePackageID { get; set; }

Target update package ID

public LXCOComponentVerion TargetVersion { get; set; }

Information about the version of the target update

Methods

public virtual bool Equals (object obj);

Determines whether the specified object is equal to the current object.

(Inherited from System.Object)

public virtual int GetHashCode ();

Serves as the default hash function

(Inherited from System.Object)

public Type GetType ();

Gets the System.Type of the current instance

(Inherited from System.Object)

public virtual string ToString ();

Returns a string that represents the current object.

(Inherited from System.Object)

WebRequestMethod enum

This data object contains the web request method.

Namespace: Lenovo.SysMgmt.LXCO.Integration.Data

Assembly: Lenovo.SysMgmt.LXCO.Integration.Data

Inheritance > Object > ValueType > Enum > WebRequestMethod

Values

- **Get**
- **Post**
- **Put**
- **Patch**
- **Delete**

Chapter 4. Virtual appliance and PowerShell management cmdlets

The following PowerShell cmdlets are available for managing the Lenovo XClarity Orchestrator virtual appliance and PowerShell sessions.

Add-LXCOPSLogHeader

This cmdlet writes a user message as a header in the PS log file, which can be used to mark the start and end of a block in a script.

Note: You cannot pipe objects to this cmdlet.

Syntax

```
Add-LXCOPSLogHeader [-UserMessage String]  
                    [-MachineID]  
                    [-Identity]  
                    [CommonParameter]
```

Parameters

-UserMessage *String*

Specifies the message in the header that the user wants to add in PS log file.

-MachineID

If specified, adds the machine identity (machine name) in the header that is to be written in PS log file.

-Identity

If specified, adds the user identity (user name and domain if is the case) in the header that is to be written in PS log file.

CommonParameters

This cmdlet supports the following common parameters: **-Verbose**, **-Debug**, **-ErrorAction**, **-ErrorVariable**, **-WarningAction**, **-WarningVariable**, **-OutBuffer**, **-PipelineVariable**, **-OutVariable**. For detailed information about each common parameter, see the [Microsoft PowerShell Common Parameters webpage](#).

Results

This cmdlet does not return any data.

Examples

The following example writes a full message header in PS log file. **-UserMessage** contains the full name of the current script

```
Add-LXCOPSLogHeader -UserMessage "Starting '$PSCmdPath'" -Identity -MachineID
```

Connect-LXCO

This cmdlet creates a connection to the Lenovo XClarity Orchestrator server that can be used by other cmdlets.

Use the [Disconnect-LXCO](#) cmdlet to disconnect from XClarity Orchestrator server.

Note: You cannot pipe objects to this cmdlet.

Syntax

```
Connect-LXC0 -HostUri String  
             -Credential PSCredential  
             [-Port Integer]  
             [-ProxyUri String]  
             [-ProxyCredential PSCredential]  
             [-ProxyUseDefaultCredentials]  
             [-Timeout Integer]  
             [-SkipCertificateCheck]  
             [CommonParameter]
```

Parameters

-HostUri *String*

Specifies the HTTPS address (IP address or hostname) for the XClarity Orchestrator server.

-Credential *PSCredential*

Specifies a credential object that includes the credentials for logging in to the XClarity Orchestrator server.

Tip: To obtain the credential object, use the `Get-Credential` cmdlet.

-ProxyUri *String*

Specifies the IP address or hostname of a network proxy server of the proxy server to use instead of connecting directly to the internet.

-ProxyCredential *PSCredential*

Specifies a credential object for a user account that has permission to use the proxy server that is specified by the `Proxy` parameter.

This parameter is valid only when the **-ProxyUri** parameter is specified. You cannot use the **-ProxyCredential** and **-ProxyUseDefaultCredentials** parameters in the same command.

Tip: To obtain the credential object, use the `Get-Credential` cmdlet.

-ProxyUseDefaultCredentials

Indicates that the cmdlet uses the credentials of the current user to access the proxy server that is specified by the **-ProxyUri** parameter.

This parameter is valid only when the **-ProxyUri** parameter is specified. You cannot use the **-ProxyCredential** and **-ProxyUseDefaultCredentials** parameters in the same command.

-Port *Int*

Specifies the port on the XClarity Orchestrator server to be used for the connection. The default value is 443.

-Timeout *Int*

Specifies the number of seconds that the cmdlet waits for an HTTPS response from the XClarity Orchestrator server. By default, the time-out value is 600 seconds.

-SkipCertificateCheck

If specified, this cmdlet does not check for server certificates. Otherwise, the connection is made only if the XClarity Orchestrator server contains a valid certificate that is signed by a trusted certification authority.

CommonParameters

This cmdlet supports the following common parameters: **-Verbose**, **-Debug**, **-ErrorAction**, **-ErrorVariable**, **-WarningAction**, **-WarningVariable**, **-OutBuffer**, **-PipelineVariable**, **-OutVariable**. For detailed information about each common parameter, see the [Microsoft PowerShell Common Parameters webpage](#).

Results

- **Lenovo.XClarityOrchestrator.PowerShell.Data.Lenovo.LXCOCConnection** If a connections was successfully created, this cmdlet returns an [LXCOCConnection](#) object that contains information about the XClarity Orchestrator server connection.
- **Lenovo.XClarityOrchestrator.PowerShell.Data.Lenovo.RequestStatusMessage** If an error occurred, this cmdlet returns a [RequestStatusMessage](#) object that contains information about the reason of the failure.

Examples

This cmdlet connects to an XClarity Orchestrator server.

```
$cred = Get-Credential
$connection = Connect-LXCO -HostUri 192.0.2.0 -Credential $cred
```

Disconnect-LXCO

This cmdlet disconnects from the Lenovo Lenovo XClarity Orchestrator server. If jobs are running the background, the connection is not terminated unless the **-Force** parameter is specified.

Note: You cannot pipe objects to this cmdlet.

Syntax

```
Disconnect-LXCO [-Connection LXCOCConnection]
                [-Force]
                [CommonParameter]
```

```
Disconnect-LXCO -All
                [-Force]
                [LXCOCConnection]
```

Parameters

-Connection *LXCACConnection*

Specifies the connection to the Lenovo XClarity Orchestrator server. If no connection is specified, the result from the last [Connect-LXCO](#) cmdlet is used.

-Force

Terminates the connection to the XClarity Orchestrator server, even if PowerShell background jobs that are assigned to this connection are running in the background.

-All

Deletes all connections that exists in current PowerShell session.

CommonParameters

This cmdlet supports the following common parameters: **-Verbose**, **-Debug**, **-ErrorAction**, **-ErrorVariable**, **-WarningAction**, **-WarningVariable**, **-OutBuffer**, **-PipelineVariable**, **-OutVariable**. For detailed information about each common parameter, see the [Microsoft PowerShell Common Parameters webpage](#).

Results

- **Lenovo.XClarityOrchestrator.PowerShell.Data.Lenovo.LXCOCConnection** If a connections was successfully terminated, this cmdlet returns an [LXCOCConnection](#) class object that contains information about the XClarity Orchestrator server connection that was terminated
- **Lenovo.XClarityOrchestrator.PowerShell.Data.Lenovo.RequestStatusMessage** If an error occurred, this cmdlet returns a [RequestStatusMessage](#) object that contains information about the reason of the failure.

Examples

The following example terminates the last connection that was created to an XClarity Orchestrator server.

```
$cred = Get-Credential
Connect-LXCO -HostUri 192.0.2.0 -Credential $cred
```

```
#Other actions
```

```
Disconnect-LXCO
```

The following example terminates a specified connection, even if there are running background jobs that are assigned to the connection.

```
$cred = Get-Credential
Connect-LXCO -HostUri 192.0.2.0 -Credential $cred
```

```
#Other actions
```

```
Disconnect-LXCO -Connection $connection -Force
```

The following example terminates all connections in current PowerShell session, even if there are running background jobs that are assigned to these connections.

```
$cred = Get-Credential
Connect-LXCO -HostUri 192.0.2.0 -Credential $cred
```

```
#Other actions
```

```
Disconnect-LXCO -All -Force
```

Invoke-LXCORestMethod

This cmdlets invokes a Lenovo XClarity Orchestrator REST API directly.

Note: You cannot pipe objects to this cmdlet.

Syntax

```
Invoke-LXCORestMethod -Connection LXCOCConnection
                    -Method WebRequestMethod
                    -ResourceUrl String
                    [-RequestBody String]
                    [-OutFile String]
                    [CommonParameter]
```

```
Invoke-LXCORestMethod -Connection LXCOCConnection
                    -Method WebRequestMethod
                    -ResourceUrl String
                    -InFile String
                    -InFileFormName String
                    [-OutFile String]
                    [CommonParameter]
```

Parameters

-Connection *LXCACConnection*

Specifies the connection to the Lenovo XClarity Orchestrator server. If no connection is specified, the result from the last [Connect-LXCO](#) cmdlet is used.

-Method *WebRequestMethod*

Specifies the HTTP request method. You can specify one of the following methods.

- **DELETE**
- **GET**
- **PATCH**
- **POST**
- **PUT**

-ResourceUri *String*

Specifies the resource URL.

-InFile *String*

Specifies one or more file paths from which a file is to be uploaded.

-InFileFormName *String*

Specifies the field name in the POST method when uploading a file.

-OutFile *String*

Specifies the output directory and file name in which to return the response body.

If you do not specify a directory or file name, the response body is not saved in an output file.

If you do not specify a file name (in other words, if the destination ends in a back slash "\"), the default file name is `LxcoRestMethod_MMddyyyy-HHmss.out`.

If the directory does not exist, it is automatically created.

-RequestBody *String*

Specifies the request body.

CommonParameters

This cmdlet supports the following common parameters: **-Verbose**, **-Debug**, **-ErrorAction**, **-ErrorVariable**, **-WarningAction**, **-WarningVariable**, **-OutBuffer**, **-PipelineVariable**, **-OutVariable**. For detailed information about each common parameter, see the [Microsoft PowerShell Common Parameters webpage](#).

Results

- **Lenovo.XClarityOrchestrator.PowerShell.Data.LXCORestResponse** This cmdlet returns an `LXCORestResponse` object that contains information about the executed REST API, including resource URI, HTTP status code, response headers, and response body.

Examples

- The following example adds a resource manager by sending the **POST /api/v1/connector/managers** request.

```
$cred = Get-Credential
Connect-LXCO -HostUri 192.0.2.0 -Credential $cred -SkipCertificateCheck
$requestBody = @{
    managers = @(
        @{
            authentication = @{
                password = "CME44len"
                type = "basic"
                username = "USERID"
            }
            connection = @{
                hostname = "192.0.2.44"
                port = 443
            }
            options = @{
```

```

        enableDriveAnalyticsData = $true
    }
    type = "XClarity Administrator"
}
)
} | ConvertTo-Json -Depth 4 -Compress

$url = "/api/v1/connector/managers"
$postResult = Invoke-LXCORestMethod -Method Post `
    -ResourceUrl $url `
    -RequestBody $requestBody `
    -OutFile $PSScriptRoot/../../test/

$postResult | Format-List

$obj = ConvertFrom-Json -InputObject $postResult.ResponseBody
$obj | Format-List

Disconnect-LXCO

```

Set-LXCOPSLogLevel

This cmdlet modifies the log level of the PowerShell cmdlets for the Lenovo XClarity Orchestrator server.

Note: You cannot pipe objects to this cmdlet.

Syntax

```
Set-LXCOPSLogLevel -LogLevel String
                [CommonParameter]
```

Parameters

-LogLevel *String*

Specifies the type of errors that are added to the log. You can specify one of the following log levels:

- **Critical.** Messages with a severity of Critical are added to the log.
- **Warn.** Messages with a severity of Critical and Warning are added to the log.
- **Info.** Messages with a severity of Critical, Warning, and Info are added to the log. This is the default level.
- **Debug.** Messages of all severities and additional information that is required to debug issues are added to the log.

CommonParameters

This cmdlet supports the following common parameters: **-Verbose**, **-Debug**, **-ErrorAction**, **-ErrorVariable**, **-WarningAction**, **-WarningVariable**, **-OutBuffer**, **-PipelineVariable**, **-OutVariable**. For detailed information about each common parameter, see the [Microsoft PowerShell Common Parameters webpage](#).

Results

This cmdlet modifies the level of errors that are added to the PowerShell log. No objects are returned.

Examples

The following example adds messages of all severities and additional debug information to the log.

```
Set-LXCOPSLogLevel -LogLevel Debug
```

Chapter 5. Alerts and events cmdlets

The following PowerShell cmdlets are available for monitoring activities, including alerts and events.

Get-LXCOAlerts

This cmdlet returns a list of alerts or information about a specific alert.

Note: You cannot pipe objects to this cmdlet.

Syntax

```
Get-LXCOAlerts [-Connection LXCOConnection]  
               -ID String  
               [CommonParameters]
```

```
Get-LXCOAlerts [-Connection LXCOConnection]  
               -Excluded  
               [-Severity String[]]  
               [-Message String]  
               [-System String]  
               [-EventId String]  
               [-AlertDate String[]]  
               [CommonParameters]
```

```
Get-LXCOAlerts [-Connection LXCOConnection]  
               [-ActiveAlerts]  
               [-Serviceability String[]]  
               [-Severity String[]]  
               [-Message String]  
               [-System String]  
               [-EventId String]  
               [-AlertDate String[]]  
               [-ResourceType String[]]  
               [-SourceType String[]]  
               [-GroupName String]  
               [CommonParameters]
```

Parameters

-Connection *LXCACConnection*

Specifies the connection to the Lenovo XClarity Orchestrator server. If no connection is specified, the result from the last [Connect-LXCO](#) cmdlet is used.

-ID *String*

Specifies the ID of the alert to return.

-Excluded

When specified, this cmdlet returns a list of all excluded alerts.

-Severity *String[]*

Specifies the severity. This can be one of the following values.

- **Informational.** Information only. No action is necessary.
- **Warning.** User can decide if action is needed.
- **Critical.** Action is needed immediately, and the scope is broad (perhaps an imminent outage to a critical resource will result).

-Message *String*

Specifies the full or partial message text. All alerts that contain the specified pattern are returned..

-System String

Specifies the full or partial resource name. All alerts that contain the specified pattern are returned.

-EventId String

Specifies the full or partial event code. All alerts that contain the specified pattern are returned.

-AlertDate String[]

Specifies the alert dates as range, using the following format: *{startDate},{endDate}*. The end date is optional. If is not specified, the current date is used by default.

-ActiveAlerts String

When specified, this cmdlet returns a list of all active alerts.

-Serviceability String[]

Specifies the serviceability. This can be one of the following values.

- **None**. (default). Not serviceable.
- **Serviceable**. Serviceable by Lenovo. If Call Home is configured, service ticket is opened with the Lenovo Support Center, and service data is collected and sent for the device, resource manager, and XClarity Orchestrator.
- **Unknown**. Serviceability is not known
- **User**. Serviceable by the user

-ResourceType String[]

Specifies the resource type. This can be one of the following values.

- **Chassis**
- **Server**
- **LXCA**. XClarity Administrator
- **LXCO**. XClarity Orchestrator
- **Storage**
- **Switch**

-SourceType String[]

Specifies the source type. This can be one of the following values.

- **Analytics**
- **Device**
- **Management**
- **System**

-GroupName String

Specifies the full or partial resource-group name. All alerts that contain the specified pattern are returned.

CommonParameters

This cmdlet supports the following common parameters: **-Verbose**, **-Debug**, **-ErrorAction**, **-ErrorVariable**, **-WarningAction**, **-WarningVariable**, **-OutBuffer**, **-PipelineVariable**, **-OutVariable**. For detailed information about each common parameter, see the [Microsoft PowerShell Common Parameters webpage](#).

Results

- **Lenovo.XClarityOrchestrator.PowerShell.Data.Alerts.AlertData[]**If -ID is not specified, this cmdlet returns an array of [AlertData](#) objects that contains high-level information for each alert.
- **Lenovo.XClarityOrchestrator.PowerShell.Data.Alerts.AlertFullData**If the request was accepted by the orchestrator server, this cmdlet returns an [AlertFullData](#) object that contains detailed information about a specific alert.
- **Lenovo.XClarityOrchestrator.PowerShell.Data.RequestStatusMessage**If an error occurred, this cmdlet returns a [RequestStatusMessage](#) object that contains information about the reason of the failure.

Examples

The following example returns information about all alerts

```
$cred = Get-Credential
Connect-LXCO -HostUri 192.0.2.0 -Credential $cred -SkipCertificateCheck

$result = Get-LXCOAlerts

$result|Format-List

Disconnect-LXCO
```

The following example returns information about certain excluded alerts that were raised since January 10, 2022.

```
Connect-LXCO -HostUri 192.0.2.0 -Credential $cred -SkipCertificateCheck

$result = Get-LXCOAlerts -Excluded `
    -AlertDate '1.10.2022 14:30:00' `
    -EventId 2552 `
    -Message 25522 `
    -Severity Critical `
    -System Orchestrator

$result|Format-List

Disconnect-LXCO
```

The following example returns information about a specific excluded alert.

```
$cred = Get-Credential
Connect-LXCO -HostUri 192.0.2.0 -Credential $cred -SkipCertificateCheck

$result = Get-LXCOAlerts -ID 0X806F06080A01FF03

$result

Disconnect-LXCO
```

Get-LXCOEvents

This cmdlet returns a list of events or information about a specific event.

Note: You cannot pipe objects to this cmdlet.

Syntax

```
Get-LXCOEvents [-Connection LXCOConnection]
               -ID String
               [CommonParameter]

Get-LXCOEvents [-Connection LXCOConnection]
               -ResourceEvents
               [-Severity String[]}
               [-Serviceability String[]}
               [-Message String]
               [-ResourceName String]
               [-ResourceType String[]}
               [-GroupName String]
               [-EventId String]
```

[-EventDate String[]]
[CommonParameter]

Get-LXCOEvents *[-Connection LXCOConnection]*
 -ResourceEvents
 -Excluded
 [-Message String]
 [-ResourceName String]
 [-EventId String]
 [-EventDate String[]]
 [CommonParameter]

Get-LXCOEvents *[-Connection LXCOConnection]*
 -AuditEvents
 [-Severity String[]]
 [-Serviceability String[]]
 [-Message String]
 [-ResourceName String]
 [-ResourceType String[]]
 [-GroupName String]
 [-EventId String]
 [-EventDate String[]]
 [-UserName String]
 [CommonParameter]

Get-LXCOEvents *[-Connection LXCOConnection]*
 -AuditEvents
 -Excluded
 [-Message String]
 [-ResourceName String]
 [-EventId String]
 [-EventDate String[]]
 [CommonParameter]

Parameters

-Connection *LXCACConnection*

Specifies the connection to the Lenovo XClarity Orchestrator server. If no connection is specified, the result from the last [Connect-LXCO](#) cmdlet is used.

-ID *String*

Specifies the ID of the event to return.

-ResourceEvents

When specified, this cmdlet returns a list of resource events.

-Severity *String[]*

Specifies the severity. This can be one of the following values.

- **Informational**. Information only. No action is necessary.
- **Warning**. User can decide if action is needed.
- **Critical**. Action is needed immediately, and the scope is broad (perhaps an imminent outage to a critical resource will result).

-Serviceability *String[]*

Specifies the serviceability. This can be one of the following values.

- **None**. (default). Not serviceable.
- **Serviceable**. Serviceable by Lenovo. If Call Home is configured, service ticket is opened with the Lenovo Support Center, and service data is collected and sent for the device, resource manager, and XClarity Orchestrator.
- **Unknown**. Serviceability is not known
- **User**. Serviceable by the user

-Message String

Specifies the full or partial message text. All events that contain the specified pattern are returned.

-ResourceName String

Specifies the full or partial resource name. All events that contain the specified pattern are returned.

-ResourceType String[]

Specifies the resource type. This can be one of the following values.

- **Chassis**
- **Server**
- **LXCA**. XClarity Administrator
- **LXCO**. XClarity Orchestrator
- **Storage**
- **Switch**

-GroupName String

Specifies the full or partial resource-group name. All events that contain the specified pattern are returned.

-EventId String

Specifies the full or partial event code. All events that contain the specified pattern are returned.

-EventDate String[]

Specifies the event dates as range, using the following format: *{startDate},{endDate}*. The end date is optional. If is not specified, the current date is used by default.

-Excluded

When specified, this cmdlet returns a list of excluded events.

-AuditEvents

When specified, this cmdlet returns a list of audit events.

-UserName String

Specifies the full or partial user name. All events that contain the specified pattern are returned.

CommonParameters

This cmdlet supports the following common parameters: **-Verbose**, **-Debug**, **-ErrorAction**, **-ErrorVariable**, **-WarningAction**, **-WarningVariable**, **-OutBuffer**, **-PipelineVariable**, **-OutVariable**. For detailed information about each common parameter, see the [Microsoft PowerShell Common Parameters webpage](#).

Results

- **Lenovo.XClarityOrchestrator.PowerShell.Data.Alerts.EventData[]** If -ID is not specified, this cmdlet returns an array of [EventData](#) objects that contains high-level information for each event.
- **Lenovo.XClarityOrchestrator.PowerShell.Data.Alerts.EventFullData** If -ID is specified, this cmdlet returns an [EventFullData](#) object that contains detailed information about a specific event.
- **Lenovo.XClarityOrchestrator.PowerShell.Data.RequestStatusMessage** If an error occurred, this cmdlet returns a [RequestStatusMessage](#) object that contains information about the reason of the failure.

Examples

The following example returns information about all audit events.

```
$cred = Get-Credential
Connect-LXCO -HostUri 192.0.2.0 -Credential $cred -SkipCertificateCheck

$result = Get-LXCOEvents -AuditEvents

$result|Format-List
```

Disconnect-LXCO

The following example returns information about all excluded resource events.

```
$cred = Get-Credential
Connect-LXCO -HostUri 192.0.2.0 -Credential $cred -SkipCertificateCheck

$result = Get-LXCOEvents -ResourceEvents -Excluded

$result|Format-List

Disconnect-LXCO
```

The following example returns a detailed information about a specific event.

```
$cred = Get-Credential
Connect-LXCO -HostUri 192.0.2.0 -Credential $cred -SkipCertificateCheck

$result = Get-LXCOEvents -ID 0X806F06080A01FF03

$result

Disconnect-LXCO
```

The following example returns the not excluded resource events, which meet the specified filtering criterion.

```
$cred = Get-Credential
Connect-LXCO -HostUri 192.0.2.0 -Credential $cred -SkipCertificateCheck

$result = Get-LXCOEvents -ResourceEvents `
    -EventDate "1.10.2022 14:30:00","1.12.2022 11:45:00" `
    -EventId FD243 `
    -GroupName GRP `
    -ResourceType Server `
    -Serviceability User `
    -Severity Critical

$result|Format-List

Disconnect-LXCO
```

Get-LXCOJobs

Use this cmdlet to return high-level data for all jobs or a list of jobs, or detailed information for a specific job.

Note: You cannot pipe objects to this cmdlet.

Syntax

```
Get-LXCOJobs [-Connection LXCOConnection]
            [-PageOffset Int32]
            [-PageLimit Int32]
            [-Name String[]]
            [-Status String[]]
            [-CreatedBy String[]]
            [-Category String[]]
            [-Target String[]]
            [-StartTimestamp String[]]
            [-CompleteTimestamp String[]]
```

[-Progress String[]]
[CommonParameter]

Get-LXC0Jobs [-Connection *LXC0Connection*]
[-IncludeLogs]
-IDs Int32[]
[CommonParameter]

Get-LXC0Jobs [-Connection *LXC0Connection*]
-JobID Int32
[-ChildrenLevel Int32]
[-IncludeLogs]
[CommonParameter]

Parameters

-Connection *LXC0Connection*

Specifies the connection to the Lenovo XClarity Orchestrator server. If no connection is specified, the result from the last [Connect-LXCO](#) cmdlet is used.

-PageOffset *Int32*

Specifies the page offset at which to start the set of job in the servers job's list to be returned. The default offset is 0.

-PageLimit *Int32*

Specifies the number of jobs to return at one time. The default limit is 10.

-Name *String[]*

Specifies a list of full or partial name text. All jobs that contain the specified pattern are returned.

-Status *String[]*

Specifies a comma-separated list of job statuses. This can be any of the following values.

- **Aborted**
- **Blocked**
- **Cancelled**
- **CancelledWithErrors**
- **CancelledWithWarnings**
- **Cancelling**
- **Complete**
- **CompleteWithErrors**
- **CompleteWithWarnings**
- **Expired**
- **Initializing**
- **Interrupted**
- **InterruptedWithErrors**
- **InterruptedWithWarnings**
- **Investigating**
- **Pending**
- **Resolved**
- **Running**
- **RunningWithErrors**
- **RunningWithWarnings**
- **Skipped**
- **Stopped**
- **StoppedWithErrors**
- **StoppedWithWarnings**
- **Unknown**
- **Uploading**
- **Validating**

- **Waiting**

-CreatedBy *String[]*

Specifies a list of names of users that created the job.

-Category *String[]*

Specifies a comma-separated list of categories. This can be any of the following values.

- **Analytics**
- **Backup**
- **Service**
- **Configuration**
- **Custom**
- **Firmware**
- **Health**
- **Inventory**
- **Management**
- **OsDeployment**
- **OsDriverUpdates**
- **OsImport**
- **OsProfileExport**
- **Power**
- **RemoteAccess**
- **SelfMaintenance**
- **SwitchConfiguration**
- **SystemID**
- **SystemID**
- **Unknown**

-Target *String[]*

Specifies a comma-separated list of full or partial target names. All jobs that contain the specified pattern are returned.

-StartTimestamp *String[]*

Specifies the job start dates, as range using the following format: *{startDate},{endDate}*. The end date is optional. If is not specified, the current date is used by default.

-CompleteTimestamp *String[]*

Specifies the job completion dates, as range using the following format: *{startDate},{endDate}*. The end date is optional. If is not specified, the current date is used by default.

-Progress *String[]*

Specifies a comma-separated list of job progresses. The value can be in 0 - 100 range.

-IncludeLogs

When specified, the logs for the retrieved jobs are returned, if available.

-IDs *Int32[]*

Specifies a comma-separated list of jobs IDs that are to be returned. High-level data is returned.

-JobID *Int32*

Specifies the job ID that are to be returned. Detailed information is returned.

-ChildrenLevel *Int32*

Specifies the levels of subtasks to return. This can be one of the following values.

- **-1.** All subtasks are returned.
- **0.** (default) No subtasks are returned.
- *{number}*. The specified level of subtasks is returned.

CommonParameters

This cmdlet supports the following common parameters: **-Verbose**, **-Debug**, **-ErrorAction**, **-ErrorVariable**, **-WarningAction**, **-WarningVariable**, **-OutBuffer**, **-PipelineVariable**, **-OutVariable**. For detailed information about each common parameter, see the [Microsoft PowerShell Common Parameters webpage](#).

Results

- **Lenovo.XClarityOrchestrator.PowerShell.Data.LXCOJob[]** If **-JobID** is not specified, this cmdlet returns an array of **LXCOJob** objects, that contains high-level information for each job.
- **Lenovo.XClarityOrchestrator.PowerShell.Data.LXCOJobFullData** If **-JobID** is specified, this cmdlet returns a **LXCOJobFullData** object, that contains detailed information about a specific job.
- **Lenovo.XClarityOrchestrator.PowerShell.Data.RequestStatusMessage** If an error occurred, this cmdlet returns a **RequestStatusMessage** object that contains information about the reason of the failure.

Examples

The following example return all jobs that meet the specified filters.

```
$cred = Get-Credential
Connect-LXCO -HostUri 192.0.2.0 -Credential $cred -SkipCertificateCheck

$jobs = Get-LXCOJobs -Category Firmware `
            -Status RunningWithErrors,RunningWithWarnings `
            -Progress 10,50 `
            -StartTimestamp "1.10.2022 14:30:00","1.12.2022 11:45:00" `
            -CompleteTimestamp "1.10.2022 14:30:00","1.12.2022 11:45:00"

$jobs|Format-List

Disconnect-LXCO
```

The following example return all specified jobs and the job logs, if available.

```
$cred = Get-Credential
Connect-LXCO -HostUri 192.0.2.0 -Credential $cred -SkipCertificateCheck

$jobs = Get-LXCOJobs -IDs 1,4,7,15 -IncludeLogs
$jobs|Format-List

Disconnect-LXCO
```

The following example return specified job and all its subtasks, and also the job logs are retrieved, if available.

```
$cred = Get-Credential
Connect-LXCO -HostUri 192.0.2.0 -Credential $cred -SkipCertificateCheck

$job = Get-LXCOJobs -JobID 1 -ChildrenLevel -1 -IncludeLogs
$job
# show the content of the level 1 subtasks
$job.Children |Format-List

Disconnect-LXC
```

Chapter 6. Resource cmdlets

The following PowerShell cmdlets are available for managing the resource managers and devices.

Add-LXCManager

This cmdlet starts a job that connects (registers) a resource manager to a Lenovo XClarity Orchestrator server.

Note: You cannot pipe objects to this cmdlet.

Syntax

```
Add-LXCManager [-Connection LXCConnection]  
                -ManagerType String  
                -Credential PSCredential  
                [-Port Integer]  
                -ManagerIP String  
                [-EnableDriveAnalyticsData]  
                [-AuthSource String]  
                [CommonParameter]
```

```
Add-LXCManager [-Connection LXCConnection]  
                -ManagerType String  
                -APIKey String  
                -ResourceName String  
                [-EcoStruxurePortalUrl String]  
                [CommonParameter]
```

Parameters

-Connection *LXCConnection*

Specifies the connection to the Lenovo XClarity Orchestrator server. If no connection is specified, the result from the last [Connect-LXCO](#) cmdlet is used.

-ManagerType *String*

Specifies the type of resource manager. This can be one of the following values.

- **SchneiderEcoStruxureIT**. Schneider Electric EcoStruxure IT Expert
- **vRealizeOperationsManager**. vRealize Operations Manager
- **XClarityAdministrator**. Lenovo XClarity Administrator

-Credential *PSCredential*

Specifies a credential object required to authenticate on to the manager.

Note: This parameter is used only by XClarity Administrator and vRealize Operations Manager, and is ignored for all other managers

-Port *Integer*

Specifies the resource manager port.

Note: This parameter is used only by XClarity Administrator and vRealize Operations Manager, and is ignored for all other managers

-ManagerIP *String*

Specifies the resource manager host name or IP address.

Note: This parameter is used only by XClarity Administrator and vRealize Operations Manager, and is ignored for all other managers

-EnableDriveAnalyticsData

If specified, drive analytics data collection is enabled.

Note: This parameter is used only by XClarity Administrator and is ignored for all other managers

-AuthSource String

Specifies the name of the authentication source for users and groups.

Note: This parameter is used only by vRealize Operations Manager and is ignored for all other managers

-APIKey String

Specifies the public API key for authentication on a EcoStruxure IT Expert.

Note: This parameter is used only for EcoStruxure IT Expert. Otherwise, the Lenovo.XClarityOrchestrator.PowerShell.Common.LXCOException is thrown.

-ResourceName String

Specifies the name assigned to this resource manager.

Note: This parameter is used only for EcoStruxure IT Expert. Otherwise, the Lenovo.XClarityOrchestrator.PowerShell.Common.LXCOException is thrown.

-EcoStruxurePortalUrl String

Specifies the custom URL to access EcoStruxure IT Expert portal.

Note: This parameter is used only for EcoStruxure IT Expert. Otherwise, the Lenovo.XClarityOrchestrator.PowerShell.Common.LXCOException is thrown.

CommonParameters

This cmdlet supports the following common parameters: **-Verbose**, **-Debug**, **-ErrorAction**, **-ErrorVariable**, **-WarningAction**, **-WarningVariable**, **-OutBuffer**, **-PipelineVariable**, **-OutVariable**. For detailed information about each common parameter, see the [Microsoft PowerShell Common Parameters webpage](#).

Results

- **Lenovo.XClarityOrchestrator.PowerShell.Data.LXCOJob** If the request was accepted the orchestrator server, this cmdlet returns an **LXCOJob** object that contains the status of the register request.
- **Lenovo.XClarityOrchestrator.PowerShell.Data.RequestStatusMessage** If an error occurred, this cmdlet returns a **RequestStatusMessage** object that contains information about the reason of the failure.

Examples

The following example registers an EcoStruxure IT Expert resource manager.

```
$cred = Get-Credential
Connect-LXCO -HostUri 192.0.2.0 -Credential $cred -SkipCertificateCheck

$apiKey = "AK1/2sixskmmc06wj/1i6v3epcz5c25rc29jv1t00hce1pjahyobux63"
$portalUrl = https://api.ecostruxureit.com/rest/v1/organizations
$result = Add-LXCOManager -APIKey $apiKey `
    -ManagerType SchneiderEcoStruxureIT `
    -ResourceName "My EcoStruxure" `
    -EcoStruxurePortalUrl $portalUrl
```

```
Disconnect-LXCO
```

The following example registers an XClarity Administrator resource manager.

```
$cred = Get-Credential
```


Specifies the health states of devices to return. This can be one or more of the following values, separated by a comma.

- **Normal**
- **Warning**
- **Critical**
- **Unknown**

-Connectivity *String[]*

Specifies the connectivity status of devices to return. This can be one or more of the following values, separated by a comma.

- **Online**
- **Offline**
- **OfflineManaged**
- **Partial**

-Power *String*

Specifies the power status of devices to return. This can be one of the following values.

- **Off**
- **On**

-IpAddress *String[]*

Specifies the IP addresses, separated by a comma.

-Groups *String[]*

Specifies the groups names, separated by a comma.

-ProductName *String[]*

Specifies the product names, separated by a comma.

-TypeModel *String[]*

Specifies the machine-type models, separated by a comma.

-FirmwareName *String[]*

Specifies the firmware names, separated by a comma.

-FirmwareVersion *String[]*

Specifies the firmware versions, separated by a comma.

-FirmwareBuild *String[]*

Specifies the firmware builds, separated by a comma.

-FirmwareDate *String[]*

Specifies the firmware release dates as range, using the following format: *<startDate>,<endDate>*. The end date is optional. If not specified, the current date is used by default.

-WarrantyStatus *String*

Specifies the warranty status of devices to return. This can be one of the following values.

- **Active**
- **Expired**
- **RetrievingData**
- **NoData**

CommonParameters

This cmdlet supports the following common parameters: **-Verbose**, **-Debug**, **-ErrorAction**, **-ErrorVariable**, **-WarningAction**, **-WarningVariable**, **-OutBuffer**, **-PipelineVariable**, **-OutVariable**. For detailed information about each common parameter, see the [Microsoft PowerShell Common Parameters webpage](#).

Results

- **Lenovo.XClarityOrchestrator.PowerShell.Data.DeviceFullData** If **-DeviceID** is specified, this cmdlet returns an **DeviceFullData** object that contains detailed information about the specified devices.

- **Lenovo.XClarityOrchestrator.PowerShell.Data.DeviceDataExtended** If **-DeviceType** is not specified, this cmdlet returns an array of **DeviceDataExtended** objects, which contains high-level information for each device.
- **Lenovo.XClarityOrchestrator.PowerShell.Data.DeviceData** If **-DeviceID** or **-DeviceType** are not specified, this cmdlet returns an array of **DeviceData** objects, which contains high-level information for each device.
- **Lenovo.XClarityOrchestrator.PowerShell.Data.RequestStatusMessage** If an error occurred, this cmdlet returns a **RequestStatusMessage** object that contains information about the reason of the failure.

Examples

The following example returns a list of all managed devices that meet specified criteria.

```
$cred = Get-Credential
Connect-LXCO -HostUri 192.0.2.0 -Credential $cred -SkipCertificateCheck

$result = Get-LXCODevices -DeviceType Server `
    -Status Critical,Normal,Warning `
    -Connectivity Offline,Online `
    -IpAddress 10.24 `
    -Groups "not_available" `
    -ProductName system `
    -FirmwareName xcc,imm2 `
    -FirmwareDate "5/20/2020"

$result | Format-List

Disconnect-LXCO
```

The following example returns a detailed information about a specific device.

```
$cred = Get-Credential
Connect-LXCO -HostUri 192.0.2.0 -Credential $cred -SkipCertificateCheck

$result = Get-LXCODevices -DeviceID 00632D78DE644E23B712E200FE449787-7AF5D198CECF431AAEC674C7CA5A29B5
$result | Format-List

Disconnect-LXCO
```

The following example returns list of all managed servers that are in Critical or Warning health state.

```
$cred = Get-Credential
Connect-LXCO -HostUri 192.0.2.0 -Credential $cred -SkipCertificateCheck

$result = Get-LXCODevices -DeviceType servers -Status Critical,Normal
$result | Format-List

Disconnect-LXCO
```

Get-LXCODeviceInventory

This cmdlet returns inventory data about a specific managed device.

Note: You cannot pipe objects to this cmdlet.

Syntax

```
Get-LXCODeviceInventory [-Connection LXCOCConnection]
    -DeviceId String
    [CommonParameter]
```

Parameters

-Connection *LXCACONNECTION*

Specifies the connection to the Lenovo XClarity Orchestrator server. If no connection is specified, the result from the last [Connect-LXCO](#) cmdlet is used.

-DeviceId *String*

Specifies the ID of the device to return inventory data.

CommonParameters

This cmdlet supports the following common parameters: **-Verbose**, **-Debug**, **-ErrorAction**, **-ErrorVariable**, **-WarningAction**, **-WarningVariable**, **-OutBuffer**, **-PipelineVariable**, **-OutVariable**. For detailed information about each common parameter, see the [Microsoft PowerShell Common Parameters webpage](#).

Results

- **Lenovo.XClarityOrchestrator.PowerShell.Data.Devices.ChassisInventoryInfo** If device specified by **-DeviceId** is a chassis, this cmdlet returns a [ChassisInventoryInfo](#) object that contains inventory information about the specified device
- **Lenovo.XClarityOrchestrator.PowerShell.Data.Devices.SwitchInventoryInfo** If device specified by **-DeviceId** is a switch, this cmdlet returns a [SwitchInventoryInfo](#) object that contains inventory information about the specified device
- **Lenovo.XClarityOrchestrator.PowerShell.Data.Devices.StorageInventoryInfo** If device specified by **-DeviceId** is a storage, this cmdlet returns a [StorageInventoryInfo](#) object that contains inventory information about the specified device
- **Lenovo.XClarityOrchestrator.PowerShell.Data.Devices.ServerInventoryInfo** If device specified by **-DeviceId** is a server, this cmdlet returns a [ServerInventoryInfo](#) object that contains inventory information about the specified device
- **Lenovo.XClarityOrchestrator.PowerShell.Data.RequestStatusMessage** If an error occurred, this cmdlet returns a [RequestStatusMessage](#) object that contains information about the reason of the failure.

Examples

The following example returns inventory data about a specific device

```
$cred = Get-Credential
Connect-LXCO -HostUri 192.0.2.0 -Credential $cred -SkipCertificateCheck

$result = Get-LXCDeviceInventory `
    -DeviceID 00632D78DE644E23B712E200FE449787-7AF5D198CECF431AAEC674C7CA5A29B5
$result | Format-List

Disconnect-LXCO
```

Get-LXCManagers

This cmdlet returns a list of all resource managers or detailed information about a specific resource manager that is registered in Lenovo XClarity Orchestrator. When a list is returned, the content of the list can be filtered by manager type and manager health state.

Note: You cannot pipe objects to this cmdlet.

Syntax

```
Get-LXCManagers [-Connection LXCOCONNECTION]
                -HealthStatus String[]
                -ManagerType String[]
```


[*CommonParameter*]

```
Get-LXCOManagers [-Connection LXCOConnection]  
                -ManagerID String  
                [-ConnectedInterval String]  
                [CommonParameter]
```

Parameters

-Connection *LXCOConnection*

Specifies the connection to the Lenovo XClarity Orchestrator server. If no connection is specified, the result from the last [Connect-LXCO](#) cmdlet is used.

-HealthStatus *String*

Specifies the health states of resource managers to return. This can be one or more of the following values, separated by a comma.

- **Normal**
- **Warning**
- **Critical**
- **Unknown**

-ManagerType *String*

Specifies the type of resource managers to return. This can be one or more of the following values, separated by a comma.

- **Schneider EcoStruxure IT**
- **vRealize Operations Manager**
- **XClarity Administrator**
- **XClarity Orchestrator**

Tip: If you specify a portion of a value, the toolkit finds the best match. For example, specify **xclarity** to return information for XClarity Orchestrator and all XClarity Administrator resource managers.

-ManagerID *String*

Specifies the ID of the resource manager to return.

-ConnectedInterval *String*

Specifies when the manager was connected as dates range, using the following format: *<startDate>*, *<endDate>*. The end date is optional. If not specified, the current date is used by default.

CommonParameters

This cmdlet supports the following common parameters: **-Verbose**, **-Debug**, **-ErrorAction**, **-ErrorVariable**, **-WarningAction**, **-WarningVariable**, **-OutBuffer**, **-PipelineVariable**, **-OutVariable**. For detailed information about each common parameter, see the [Microsoft PowerShell Common Parameters webpage](#).

Results

- **Lenovo.XClarityOrchestrator.PowerShell.Data.ResourceManager.ResourceManagerFullData**If **-ManagerID** is specified, this cmdlet returns an [ResourceManagerFullData](#) object that contains detailed information about the specified resource managers.
- **Lenovo.XClarityOrchestrator.PowerShell.Data.ResourceManager.ResourceManagerData**If **-ManagerID** is *not* specified, this cmdlet returns an array of [ResourceManagerData](#) objects, which contains high-level information for each resource manager.
- **Lenovo.XClarityOrchestrator.PowerShell.Data.RequestStatusMessage**If an error occurred, this cmdlet returns a [RequestStatusMessage](#) object that contains information about the reason of the failure.

Examples

The following example returns a detailed information about a specific resource manager.

```
$cred = Get-Credential
```

```
Connect-LXCO -HostUri 192.0.2.0 -Credential $cred -SkipCertificateCheck
```

```
$result = Get-LXCManagers -ManagerID 7AF5D198CECF431AAEC674C7CA5A29B5  
$result | Format-List
```

```
Disconnect-LXCO
```

The following example returns a list of all registered resource managers, with high-level information about each manager.

```
$cred = Get-Credential  
Connect-LXCO -HostUri 192.0.2.0 -Credential $cred -SkipCertificateCheck
```

```
$result = Get-LXCManagers  
$result | Format-List
```

```
Disconnect-LXCO
```

The following example returns list of all registered XClarity Administrator resource managers that are in Critical or Warning health state.

```
$cred = Get-Credential  
Connect-LXCO -HostUri 192.0.2.0 -Credential $cred -SkipCertificateCheck
```

```
$result = Get-LXCManagers -ManagerType administrator -HealthStatus Critical,Normal  
$result | Format-List
```

```
Disconnect-LXCO
```

Remove-LXCManager

This cmdlet starts a job that disconnects (removes) a specific resource manager.

Note: You cannot pipe objects to this cmdlet.

Syntax

```
Remove-LXCManager [-Connection LXCConnection]  
                  -ManagerID String  
                  [CommonParameter]
```

Parameters

-Connection *LXCConnection*

Specifies the connection to the Lenovo XClarity Orchestrator server. If no connection is specified, the result from the last [Connect-LXCO](#) cmdlet is used.

-ManagerID *String*

Specifies the ID of the resource manager to be removed

CommonParameters

This cmdlet supports the following common parameters: **-Verbose**, **-Debug**, **-ErrorAction**, **-ErrorVariable**, **-WarningAction**, **-WarningVariable**, **-OutBuffer**, **-PipelineVariable**, **-OutVariable**. For detailed information about each common parameter, see the [Microsoft PowerShell Common Parameters webpage](#).

Results

- **Lenovo.XClarityOrchestrator.PowerShell.Data.LXCJob** If the request was accepted the orchestrator server, this cmdlet returns an **LXCJob** object that contains the status of the remove request.

- [Lenovo.XClarityOrchestrator.PowerShell.Data.RequestStatusMessage](#) If an error occurred, this cmdlet returns a [RequestStatusMessage](#) object that contains information about the reason of the failure.

Examples

The following example removes a specified resource manager.

```
$cred = Get-Credential
Connect-LXCO -HostUri 192.0.2.0 -Credential $cred -SkipCertificateCheck

$result = Remove-LXCManager -ManagerID D1331174CEB44EADB8AB80A502A0C35E

Disconnect-LXCO
```

Chapter 7. Resource management cmdlets

The following PowerShell cmdlets are available for managing resources.

Invoke-LXCOServerPowerAction

Use this cmdlet to perform a power action (such as power on or power off) on one or more managed servers.

Notes:

- You can perform power actions on a maximum of 25 devices at one time. This means that the number of servers in the groups specified **GroupIDs** parameter or the number of servers specified in **ResourceIDs** parameter cannot exceed 25 devices.
- You cannot pipe objects to this cmdlet.

Syntax

```
Invoke-LXCOServerPowerAction [-Connection LXCConnection]  
                             -Action String  
                             -ResourceIDs String[]  
                             [CommonParameter]
```

```
Invoke-LXCOServerPowerAction [-Connection LXCConnection]  
                             -Action String  
                             -GroupsIDs String[]  
                             [CommonParameter]
```

Parameters

-Connection *LXCConnection*

Specifies the connection to the Lenovo XClarity Orchestrator server. If no connection is specified, the result from the last [Connect-LXCO](#) cmdlet is used.

Action *String*

Power action to perform on the specified resources.

This can be one of the following values:

- **PowerOn**. Powers on the resource.
- **PowerOffImmediately**. Powers off the resource immediately.
- **PowerOffNormally**. Shuts down the operating system and powers off the resource.
- **RestartImmediately**. Restarts the resource immediately.
- **RestartNormally**. Shuts down the operating system and restarts the resource.
- **RestartManagementController**. Restarts the baseboard management controller.
- **RestartToSystemSetup**. Restarts the resource to BIOS/UEFI (F1) Setup. This is supported for non-ThinkServer servers that are supported without limitations.

-ResourceIDs *String*

Specifies the server IDs.

-GroupsIDs *String*

Specifies the device group IDs.

CommonParameters

This cmdlet supports the following common parameters: **-Verbose**, **-Debug**, **-ErrorAction**, **-ErrorVariable**, **-WarningAction**, **-WarningVariable**, **-OutBuffer**, **-PipelineVariable**, **-OutVariable**. For detailed information about each common parameter, see the [Microsoft PowerShell Common Parameters webpage](#).

Results

- **Lenovo.XClarityOrchestrator.PowerShell.Data.LXCOJobFullData** If the request was accepted the orchestrator server, this cmdlet returns an **LXCOJobFullData** object that contains details about the status of the operation that is associated with this request.
- **Lenovo.XClarityOrchestrator.PowerShell.Data.RequestStatusMessage** If an error occurred, this cmdlet returns a **RequestStatusMessage** object that contains information about the reason of the failure.

Examples

The following example immediately powers off the specified servers.

```
$cred = Get-Credential
```

```
Connect-LXCO -HostUri 192.0.2.0 -Credential $cred -SkipCertificateCheck
```

```
$serverIDs = @(
    "AAABBBCCDDDD-45D937C322664C62B238FEE679314F6F",
    "EEEEFFDDDD000-45D937C322664C62B238FEE679314F6F"
)
```

```
$result = Invoke-LXCOServerPowerAction -Action PowerOffImmediately -ResourcesIDs $serverIDs
```

```
$result | Format
```

```
Disconnect-LXCO
```

Chapter 8. Update cmdlets

The following PowerShell cmdlets are available for provisioning updates.

Get-LXCOfirmwareCatalog

This cmdlet returns a list of entries in the update catalog, or information about a specific entry in the updates catalog.

Note: You cannot pipe objects to this cmdlet.

Syntax

```
Get-LXCOfirmwareCatalog [-Connection LXCConnection]  
                        [-ID String]  
                        [CommonParameter]
```

Parameters

-Connection *LXCConnection*

Specifies the connection to the Lenovo XClarity Orchestrator server. If no connection is specified, the result from the last [Connect-LXCO](#) cmdlet is used.

-ID *String*

ID of the entry in updates catalog.

CommonParameters

This cmdlet supports the following common parameters: **-Verbose**, **-Debug**, **-ErrorAction**, **-ErrorVariable**, **-WarningAction**, **-WarningVariable**, **-OutBuffer**, **-PipelineVariable**, **-OutVariable**. For detailed information about each common parameter, see the [Microsoft PowerShell Common Parameters webpage](#).

Results

- **Lenovo.XClarityOrchestrator.PowerShell.Data.FirmwareCatalogEntry[]** If -ID is not specified, this cmdlet returns an array of [FirmwareCatalogEntry](#) objects, which contains information about the entries in the update catalog.
- **Lenovo.XClarityOrchestrator.PowerShell.Data.DeviceFirmwareCatalog** If -ID is specified, this cmdlet returns a [FirmwareCatalogEntry](#) object, with information about the specified entry in the updates catalog.
- **Lenovo.XClarityOrchestrator.PowerShell.Data.RequestStatusMessage** If an error occurred, this cmdlet returns a [RequestStatusMessage](#) object that contains information about the reason of the failure.

Examples

The following example returns a detailed information about a specified entry in updates catalog.

```
$cred = Get-Credential  
Connect-LXCO -HostUri 192.0.2.0 -Credential $cred -SkipCertificateCheck  
  
$result = Get-LXCOfirmwareCatalog -ID "repopack"  
$result | Format-List  
  
Disconnect-LXCO
```

Get-LXCOResourcesCompliance

This cmdlet returns information about the firmware compliances for managed devices or registered resource managers.

Note: You cannot pipe objects to this cmdlet.

Syntax

```
Get-LXCOResourcesCompliance [-Connection LXCOCConnection]  
    -ResourceManagers  
    [-Status String[]]  
    [-ComplianceStatus String[]]  
    [-Name String[]]  
    [-InstalledVersion String[]]  
    [-BuildNumber String[]]  
    [-AssignedCompliancePolicy String[]]  
    [-ComplianceTarget String[]]  
    [-ComplianceTargetBuildNumber String[]]  
    [-Groups String[]]  
    [CommonParameters]
```

```
Get-LXCOResourcesCompliance [-Connection LXCOCConnection]  
    -Devices  
    [-Status String[]]  
    [-ComplianceStatus String[]]  
    [-Name String[]]  
    [-InstalledVersion String[]]  
    [-BuildNumber String[]]  
    [-AssignedCompliancePolicy String[]]  
    [-ComplianceTarget String[]]  
    [-ComplianceTargetBuildNumber String[]]  
    [-Groups String[]]  
    [-Connectivity String[]]  
    [-ProductName String[]]  
    [-MachineType String[]]  
    [-SerialNumber String[]]  
    [CommonParameters]
```

Parameters

-Connection *LXCACConnection*

Specifies the connection to the Lenovo XClarity Orchestrator server. If no connection is specified, the result from the last [Connect-LXCO](#) cmdlet is used.

-ResourceManagers

When specified, this cmdlet returns updates-compliance details for registered resource managers

-Devices

When specified, this cmdlet returns firmware-compliance details for managed devices

-Status *String[]*

Specifies the status of the devices or managers to be returned. This can be one or more of the following values, separated by comma.

- **Critical**
- **Normal**
- **Warning**
- **Unknown**

-ComplianceStatus *String[]*

Specifies the compliance status of the devices or managers to be returned. This can be one or more of the following values, separated by comma.

- **CalculatingPolicy**
- **Compliant**
- **NoPolicyAssigned**
- **NotCompliant**

-Name *String[]*

Specifies a list of full or partial name text. All devices or resource managers that contain the specified pattern are returned.

-InstalledVersion *String[]*

Specifies a list of full or partial version number for updates' components. All devices or resource managers that contain the specified pattern are returned.

-BuildNumber *String[]*

Specifies a list of full or partial version build number (identifier) for updates' components. All devices or resource managers that contain the specified pattern are returned.

-AssignedCompliancePolicy *String[]*

Specifies a list of full or partial compliance policy names. All devices or resource managers that contain the specified pattern are returned.

-ComplianceTarget *String[]*

Specifies a list of full or partial version number for target in updates' components. All devices or resource managers that contain the specified pattern are returned..

-ComplianceTargetBuildNumber *String[]*

Specifies a list of full or partial build number (identifier) for target in updates' components. All devices or resource managers that contain the specified pattern are returned.

-Groups *String[]*

Specifies one or more full or partial resource-group names, separated by a comma. All devices or resource managers that contain the specified pattern are returned.

-Connectivity *String[]*

Specifies the connectivity status of devices to return. This can be one or more of the following values, separated by a comma.

- **Online**
- **Offline**
- **Partial**

-ProductName *String[]*

Specifies one or more full or partial product names, separated by a comma. A list of all devices that match specified pattern is returned.

-MachineType *String[]*

Specifies one or more full or partial machine types, separated by a comma. A list of all devices that match specified pattern is returned.

-SerialNumber *String[]*

Specifies one or more full or partial serial numbers, separated by a comma. A list of all devices that match specified pattern is returned.

CommonParameters

This cmdlet supports the following common parameters: **-Verbose**, **-Debug**, **-ErrorAction**, **-ErrorVariable**, **-WarningAction**, **-WarningVariable**, **-OutBuffer**, **-PipelineVariable**, **-OutVariable**. For detailed information about each common parameter, see the [Microsoft PowerShell Common Parameters webpage](#).

Results

- **Lenovo.XClarityOrchestrator.PowerShell.Data.Devices.DeviceFirmwareComplianceDetails[]**If **-Devices** parameter is specified, this cmdlet returns a **DeviceFirmwareComplianceDetails[]** array that contains information about firmware compliance for managed devices.
- **Lenovo.XClarityOrchestrator.PowerShell.Data.Devices.ResourceManagerUpdateComplianceDetails[]**If **-ResourceManager** is specified, this cmdlet returns a **ResourceManagerUpdateComplianceDetails[]** array that contains information about compliance status.
- **Lenovo.XClarityOrchestrator.PowerShell.Data.RequestStatusMessage**If an error occurred, this cmdlet returns a **RequestStatusMessage** object that contains information about the reason of the failure.

Examples

The following example returns all devices that are not compliant or doesn't have a policy assigned and have Normal or Warning status.

```
$cred = Get-Credential
Connect-LXCO -HostUri "192.0.2.0" -Credential $Cred -SkipCertificateCheck
```

```
$details = Get-LXCOResourcesCompliance -Devices `
-ComplianceStatus NoPolicyAssigned,NotCompliant `
-Status Normal,Warning
# show the result
$details
```

```
Disconnect-LXCO
```

The following example returns all resource managers that doesn't have a policy assigned and have Critical status.

```
$cred = Get-Credential
Connect-LXCO -HostUri "192.0.2.0" -Credential $Cred -SkipCertificateCheck
```

```
$details = Get-LXCOResourcesCompliance -ResourceManagers `
-ComplianceStatus NoPolicyAssigned `
-Status Critical
# show the result
$details
```

```
Disconnect-LXCO
```

Get-LXCUpdatePolicies

This cmdlet returns a list of update-compliance policies or returns information about a specific update-compliance policy.

Note: You cannot pipe objects to this cmdlet.

Syntax

```
Get-LXCUpdatePolicies [-Connection LXCConnection]
                    [CommonParameter]
```

```
Get-LXCUpdatePolicies [-Connection LXCConnection]
                    -ID String]
                    [-OutFile String]
                    [CommonParameter]
```

Parameters

-Connection *LXCConnection*

Specifies the connection to the Lenovo XClarity Orchestrator server. If no connection is specified, the result from the last [Connect-LXCO](#) cmdlet is used.

-ID *String*

Specifies the update compliance policy ID.

-OutFile *String*

If specified, data is saved as a file in JSON format in the specified location.

If a directory is specified (if the string ends with \ or /), the file name is saved as *policyName-currentTimestamp.json*. The timestamp format is *MMDDYYYY-HHMMss*.

If the directory does not exist, it is automatically created.

CommonParameters

This cmdlet supports the following common parameters: **-Verbose**, **-Debug**, **-ErrorAction**, **-ErrorVariable**, **-WarningAction**, **-WarningVariable**, **-OutBuffer**, **-PipelineVariable**, **-OutVariable**. For detailed information about each common parameter, see the [Microsoft PowerShell Common Parameters webpage](#).

Results

- **Lenovo.XClarityOrchestrator.PowerShell.Data.UpdatePolicyData** If **-ID** is not specified, this cmdlet returns an array of [UpdatePolicyData](#) objects, which contains information about each update-compliance policy.
- **Lenovo.XClarityOrchestrator.PowerShell.Data.UpdatePolicyFullData** If **-ID** is specified and object, which contains detailed information about the update-compliance policy.
- **System.String** If **-ID** and **-OutFile** are specified, this cmdlet returns a string with fully-qualified path of the file.
- **Lenovo.XClarityOrchestrator.PowerShell.Data.RequestStatusMessage** If an error occurred, this cmdlet returns a [RequestStatusMessage](#) object that contains information about the reason of the failure.

Examples

The following example returns a list of update-compliance policies.

```
$cred = Get-Credential
Connect-LXCO -HostUri 192.0.2.0 -Credential $cred -SkipCertificateCheck

$result = Get-LXCUpdatePolicies $result | Format-List

Disconnect-LXCO
```

The following example returns a detailed information about a specified update-compliance policy.

```
$cred = Get-Credential
Connect-LXCO -HostUri 192.0.2.0 -Credential $cred -SkipCertificateCheck

$result = Get-LXCUpdatePolicies -ID 1636021473564
$result | Format-List

#show all criteria in this update-policy
$result.Rules[0].Criteria |Format-List

Disconnect-LXCO
```

The following example returns information about an update-compliance policy as a JSON file named *Policy_1-20210106-132035.json* in the specified location.

```
$cred = Get-Credential
Connect-LXCO -HostUri 192.0.2.0 -Credential $cred -SkipCertificateCheck

$result = Get-LXCOUpdatePolicies -ID 1636021473564 -OutFile $PSScriptRoot\..\test
$result

Disconnect-LXCO
```

Import-LXCOfirmwarePackage

Use this cmdlet to import one or more update packages.

Each update package contains a set of four files: metadata (.xml), payload (.tar.gz, .zip, .tgz, .bin, .tar, or .uxz), readme (.txt) and changelog (.chg).

Note: You cannot pipe objects to this cmdlet.

Syntax

```
Import-LXCOfirmwarePackage [-Connection LXCConnection]
                           -Files String[]
                           [CommonParameter]
```

```
Import-LXCOfirmwarePackage [-Connection LXCConnection]
                           -FixIDs String[]
                           -Folder String
                           [CommonParameter]
```

Parameters

-Connection *LXCConnection*

Specifies the connection to the Lenovo XClarity Orchestrator server. If no connection is specified, the result from the last [Connect-LXCO](#) cmdlet is used.

-Files *String[]*

Specifies a list of files that represents packages to upload.

-FixIDs *String[]*

Specifies a list of patterns to match update packages that are stored in folder.

-Folder *String*

Specifies the location where the update packages are to be stored.

CommonParameters

This cmdlet supports the following common parameters: **-Verbose**, **-Debug**, **-ErrorAction**, **-ErrorVariable**, **-WarningAction**, **-WarningVariable**, **-OutBuffer**, **-PipelineVariable**, **-OutVariable**. For detailed information about each common parameter, see the [Microsoft PowerShell Common Parameters webpage](#).

Results

- [Lenovo.XClarityOrchestrator.PowerShell.Data.LXCOJobFullData](#)

If request succeed, this cmdlet returns a [LXCOJobFullData](#) object, which contains details about the status of the operation that is associated with this request.

- [Lenovo.XClarityOrchestrator.PowerShell.Data.RequestStatusMessage](#) If an error occurred, this cmdlet returns a [RequestStatusMessage](#) object that contains information about the reason of the failure.

Examples

The following example uploads a firmware package using a list of files.

```
$cred = Get-Credential
Connect-LXCO -HostUri 192.0.2.0 -Credential $cred -SkipCertificateCheck

$files = @(
    "D:\FirmwareRepository\oem_fw_dsa_dsaaa6s-10.1_anyos_32-64.txt",
    "D:\FirmwareRepository\oem_fw_dsa_dsaaa6s-10.1_anyos_32-64.uxz",
    "D:\FirmwareRepository\oem_fw_dsa_dsaaa6s-10.1_anyos_32-64.xml1",
    "D:\FirmwareRepository\oem_fw_dsa_dsaaa6s-10.1_anyos_anycpu.chg"
)

$result = Import-LXCOfirmwarePackage -Files $files
$result

Disconnect-LXCO
```

The following example uploads two firmware packages from a folder.

```
$cred = Get-Credential
Connect-LXCO -HostUri 192.0.2.0 -Credential $cred -SkipCertificateCheck

$fixIDs_two = @(
    "lnvgy_fw_xcc_tei3c4m-5.00_anyos_noarch",
    "lnvgy_utl_uxsp_elsp17p-1.00_windows_32-64"
)

$result = Import-LXCOfirmwarePackage -Folder D:\FirmwareRepository\ -FixIDs $fixIDs
$result

Disconnect-LXCO
```

Import-LXCUpdatePolicies

This cmdlet imports one or more files that contain update-compliance policy definitions, in JSON format. Each file can contain only a single policy.

Note: You cannot pipe objects to this cmdlet.

Syntax

```
Import-LXCUpdatePolicies [-Connection LXCConnection]
                        -InFiles String[]
                        [CommonParameter]
```

Parameters

-Connection *LXCConnection*

Specifies the connection to the Lenovo XClarity Orchestrator server. If no connection is specified, the result from the last [Connect-LXCO](#) cmdlet is used.

-InFiles *String*

Specifies a list of update-compliance policy file names.

CommonParameters

This cmdlet supports the following common parameters: **-Verbose**, **-Debug**, **-ErrorAction**, **-ErrorVariable**, **-WarningAction**, **-WarningVariable**, **-OutBuffer**, **-PipelineVariable**, **-OutVariable**. For detailed information about each common parameter, see the [Microsoft PowerShell Common Parameters webpage](#).

Results

- **Lenovo.XClarityOrchestrator.PowerShell.Data.RequestStatusMessage** This cmdlet returns a `RequestStatusMessage` object that contains information about the request status (success or failure). If an error occurred, `RequestStatusMessage.Messages` contains an array of `StatusMessage` objects that contains detailed information about the policies that failed to be imported.

Examples

This example imports an update-compliance policy.

```
$cred = Get-Credential
Connect-LXCO -HostUri 192.0.2.0 -Credential $cred -SkipCertificateCheck

$result = Import-LXCOUpdatePolicies -InFile Policy_1.json
$result | Format-List

Disconnect-LXCO
```

This example imports a list of update-compliance policies.

```
$cred = Get-Credential
Connect-LXCO -HostUri 192.0.2.0 -Credential $cred -SkipCertificateCheck

$files = @(
"$PSScriptRoot/../../test/compliance20.json",
"$PSScriptRoot/../../test/compliance30.json"
)
$result = Import-LXCOUpdatePolicies -InFile $files
$result | Format-List

Disconnect-LXCO
```

Install-LXCODeviceFirmwareUpdates

This cmdlet applies and activates a firmware update on one or more managed servers .

Updating firmware on rack switches is currently not supported.

Note: You cannot pipe objects to this cmdlet.

Syntax

```
Install-LXCODeviceFirmwareUpdates [-Connection LXCOCConnection]
                                     [-ForceUpdate]
                                     -ActivationRule String
                                     -UpdateRule String
                                     -PolicyId String
                                     [CommonParameter]
```

```
Install-LXCODeviceFirmwareUpdates [-Connection LXCOCConnection]
                                     [-ForceUpdate]
                                     -ActivationRule String
                                     -UpdateRule String
                                     -ResourceIDs String[]
                                     [CommonParameter]
```

```
Install-LXCODeviceFirmwareUpdates [-Connection LXCOCConnection]
                                     [-ForceUpdate]
                                     -ActivationRule String
```

-UpdateRule *String*
-GroupIDs *String[]*
[*CommonParameter*]

Parameters

-Connection *LXCACconnection*

Specifies the connection to the Lenovo XClarity Orchestrator server. If no connection is specified, the result from the last [Connect-LXCO](#) cmdlet is used.

-ForceUpdate

Indicates whether to apply the firmware update to selected components even if the current software or firmware version is up to date (in compliance) or to apply a firmware update that is earlier than the one that is currently installed.

If not specified, this cmdlet skips the update on the selected resources if the installed firmware is already compliant or is later than the target version.

If specified, this cmdlet applies the firmware update to the selected resources even if the installed firmware is compliant or later than the target version.

Notes:

- A server is flagged as Not Compliant when the installed firmware version of one or more components is *earlier or later* than the target firmware version in the update-compliance policy. If the installed firmware version is *later* than the target firmware version, you must select the **Force update** option when applying the update to downgrade the firmware on the components. If the **Force update** option is not selected, only target firmware versions that are later than the installed versions are applied.
- Only certain device options, adapters, and drives support downgrading. See your hardware documentation to determine if downgrading is supported.

-ActivationRule *String*

Indicates when to activate the update. This can be one of the following values.

- **ImmediateActivation.** During the update process, the resource might be restarted automatically several times until the entire process is complete. Ensure that you quiesce all applications on the resource before you proceed.
- **DelayedActivation.** (Servers only) Some but not all update operations are performed. Resources must be restarted manually to continue the update process. Additional restarts are then performed until the update operation completes.
- **PrioritizedActivation.** (Servers only) Baseboard Management Controller is applied and activated immediately while other firmware is performed in delayed activation mode.

-UpdateRule *String*

Indicates how to handle errors during the update process. This can be one of the following values.

- **ContinueOnError.** If an error occurs when updating one of the components in a resource (such as an adapter or management-controller firmware), the update process does not apply the update for that specific component. However, the orchestrator server continues to update other components for the resource and continues with all other updates in the current update job.
- **AbortOnError.** If an error occurs when updating one of the components in a resource (such as an adapter or management-controller firmware), the updates process stops the remaining updates for that specific resource. The current firmware that is installed on that resource remains in effect. However, current update job includes additional resources, the orchestrator server continues to update the remaining resources.

-PolicyId *String*

Specifies the ID of the update-compliance policy

The update is applied to each resource that is assigned the policy.

-ResourceIDs *String[]*

Specifies a list of IDs of devices to which to apply the updates

The update is applied to each specified resource only if the resource has an assigned compliance policy.

-GroupIDs *String[]*

Specifies a list of IDs of device group to which to apply the updates

The update is applied to each resource in the specified groups only if the resource has an assigned compliance policy.

CommonParameters

This cmdlet supports the following common parameters: **-Verbose**, **-Debug**, **-ErrorAction**, **-ErrorVariable**, **-WarningAction**, **-WarningVariable**, **-OutBuffer**, **-PipelineVariable**, **-OutVariable**. For detailed information about each common parameter, see the [Microsoft PowerShell Common Parameters webpage](#).

Results

- **Lenovo.XClarityOrchestrator.PowerShell.Data.LXCOJob**If the request was accepted the orchestrator server, this cmdlet returns an **LXCOJob** object that contains the status of the register request.
- **Lenovo.XClarityOrchestrator.PowerShell.Data.RequestStatusMessage**If an error occurred, this cmdlet returns a **RequestStatusMessage** object that contains information about the reason of the failure.

Examples

This example applies updates to the specified devices that are out of compliance with their assigned update-compliance policy. Some but not all update operations are performed. Resources must be restarted manually to continue the update process. Additional restarts are then performed until the update operation completes. If errors occur during the update, the update continues.

```
$cred = Get-Credential
```

```
Connect-LXCO -HostUri 192.0.2.0 -Credential $cred -SkipCertificateCheck
```

```
$result = Install-LXCDeviceFirmwareUpdates -ActivationRule DelayedActivation `
        -UpdateRule ContinueOnError `
        -ResourceIDs 69B926D8279411E89ECB7ED30AEC2017-DF5F931E7CA149928C99E84633EA5E
```

```
$result
```

```
Disconnect-LXCO
```

This example applies updates to all non-compliant resources that are assigned to the specified compliance policy. The resources are restarted to activate the update. If errors occur during the update, the update to aborted.

```
$cred = Get-Credential
```

```
Connect-LXCO -HostUri 192.0.2.0 -Credential $cred -SkipCertificateCheck
```

```
$result = Install-LXCDeviceFirmwareUpdates -ActivationRule ImmediateActivation `
        -UpdateRule AbortOnError `
        -PolicyId 1636021473202
```

```
$result
```

```
Disconnect-LXCO
```

Install-LXCOResourceManagerUpdates

This cmdlet applies and activates an update on one or more resource managers.

Note: You cannot pipe objects to this cmdlet.

Syntax

```
Install-LXCOResourceManagerUpdates [-Connection LXCOCConnection]  
                                     -PolicyId String  
                                     [CommonParameter]
```

```
Install-LXCOResourceManagerUpdates [-Connection LXCOCConnection]  
                                     -ResourceIDs String[]  
                                     [CommonParameters]
```

```
Install-LXCOResourceManagerUpdates [-Connection LXCOCConnection]  
                                     -GroupIDs String[]  
                                     [CommonParameter]
```

Parameters

-Connection *LXCACConnection*

Specifies the connection to the Lenovo XClarity Orchestrator server. If no connection is specified, the result from the last [Connect-LXCO](#) cmdlet is used.

-PolicyId *String*

Specifies the ID of the update-compliance policy

The update is applied to each resource that is assigned the policy only if the resource is out of compliance with that policy.

-ResourceIDs *String[]*

Specifies a list of IDs of managers to which to apply the updates

The update is applied to each specified resource only if the resource has an assigned compliance policy and is out of compliance with that policy.

-GroupIDs *String[]*

Specifies a list of IDs of manger group to which to apply the updates

The update is applied to each resource in the specified groups only if the resource has an assigned compliance policy and is out of compliance with that policy.

CommonParameters

This cmdlet supports the following common parameters: **-Verbose**, **-Debug**, **-ErrorAction**, **-ErrorVariable**, **-WarningAction**, **-WarningVariable**, **-OutBuffer**, **-PipelineVariable**, **-OutVariable**. For detailed information about each common parameter, see the [Microsoft PowerShell Common Parameters webpage](#).

Results

- **Lenovo.XClarityOrchestrator.PowerShell.Data.LXCOJob**If the request was accepted the orchestrator server, this cmdlet returns an [LXCOJob](#) object that contains the status of the register request.
- **Lenovo.XClarityOrchestrator.PowerShell.Data.RequestStatusMessage**If an error occurred, this cmdlet returns a [RequestStatusMessage](#) object that contains information about the reason of the failure.

Examples

This example applies updates to the resource managers in the specified group that are out of compliance with their assigned update-compliance policy. The resources are restarted to activate the update. If errors occur during the update, the update continues.

```
$cred = Get-Credential
```

```
Connect-LXCO -HostUri 192.0.2.0 -Credential $cred -SkipCertificateCheck  
$result = Install-LXCOResourceManagerUpdates -GroupIDs G_85A42D160E83469B9746B96303597115
```

\$result

Disconnect-LXCO

Join-LXCUpdatePolicy

This cmdlet assigns an update-compliance policy to specified resources. Use the **ComplianceStatus** parameter to determine whether to replace an existing policy assignment with the new policy.

Note: You cannot pipe objects to this cmdlet.

Syntax

```
Join-LXCUpdatePolicy [-Connection LXCOConnection]
                    -ResourceIDs String[]
                    -PolicyId String
                    -ComplianceStatus String[]
                    [CommonParameter]
```

```
Join-LXCUpdatePolicy [-Connection LXCOConnection]
                    -GroupIDs String[]
                    -PolicyId String
                    -ComplianceStatus String[]
                    [CommonParameter]
```

```
Join-LXCUpdatePolicy [-Connection LXCOConnection]
                    -ResourceIDs String[]
                    -PolicyId String
                    [-Overwrite]
                    [CommonParameter]
```

```
Join-LXCUpdatePolicy [-Connection LXCOConnection]
                    -GroupIDs String[]
                    -PolicyId String
                    [-Overwrite]
                    [CommonParameter]
```

Parameters

-Connection *LXCACONNECTION*

Specifies the connection to the Lenovo XClarity Orchestrator server. If no connection is specified, the result from the last [Connect-LXCO](#) cmdlet is used.

-GroupIDs *String*

Specifies list of IDs of manager or device groups.

-ResourceIDs *String[]*

Specifies a list of IDs of resource managers or managed devices.

-PolicyId *String*

Specifies the date-compliance policy ID.

-ComplianceStatus

Identifies whether to replace the currently assigned policy with the new policy based on the current policy compliance. This can be one of the following values.

- **Compliant.** The new policy is assigned only to devices that are compliant with the assigned policy.
- **NotCompliant.** The new policy is assigned only to devices that are not compliant with the assigned policy.
- **NoPolicyAssigned.** The new policy is assigned only to devices that do not have an assigned policy.

-Overwrite

When specified, if another policy is assigned to that platform, the current assigned policy is replaced with the new policy. This is equivalent with specifying **ComplianceStatus** with all values.

If not specified, the current assigned policy (if any) is not changed. This is equivalent with **ComplianceStatus** having **NoPolicyAssigned** value.

Note: This parameter is deprecated, and it will be removed at a future date. Use **ComplianceStatus** parameter instead.

CommonParameters

This cmdlet supports the following common parameters: **-Verbose**, **-Debug**, **-ErrorAction**, **-ErrorVariable**, **-WarningAction**, **-WarningVariable**, **-OutBuffer**, **-PipelineVariable**, **-OutVariable**. For detailed information about each common parameter, see the [Microsoft PowerShell Common Parameters webpage](#).

Results

- **Lenovo.XClarityOrchestrator.PowerShell.Data.LXCOJob**If the request was accepted by the orchestrator server, this cmdlet returns an **LXCOJob** object that contains the status of the request.
- **Lenovo.XClarityOrchestrator.PowerShell.Data.RequestStatusMessage**If the update-compliance policy was not assigned to all target devices, this cmdlet returns a **RequestStatusMessage** object that contains information about the devices that were not assigned.

If an error occurred, this cmdlet returns a **RequestStatusMessage** object that contains information about the reason of the failure.

Examples

The following example assigns a policy to a specific resource, replacing the existing policy.

```
$cred = Get-Credential
Connect-LXCO -HostUri 192.0.2.0 -Credential $cred -SkipCertificateCheck

$result = Join-LXCOUpdatePolicy -PolicyId 8D735FCEFB49118C68169312166C68 `
    -ResourceIDs 00632D78DE644E23B712E200FE449787 `
    -ComplianceStatus Compliant,NotCompliant

Disconnect-LXCO
```

New-LXCOUpdatePolicy

This cmdlet creates an update-compliance policy for a specific platform, with one criterion and saves this as a JSON file. This file can then be updated with other platforms and new criteria.

Note: You cannot pipe objects to this cmdlet.

Syntax

```
New-LXCOUpdatePolicy -Name String
                    -OutFile String
                    [-Description String]
                    -ComplianceRule String
                    -PlatformId String
                    -ComponentId String
                    -UpdatePackageId String
                    [CommonParameter]
```

Parameters

-Connection *LXCACconnection*

Specifies the connection to the Lenovo XClarity Orchestrator server. If no connection is specified, the result from the last [Connect-LXCO](#) cmdlet is used.

-Name *String*

Specifies the policy name.

-OutFile *String*

If specified, data is saved as a file in JSON format in the specified location.

If a directory is specified (if the string ends with \ or /), the file name is saved as *policyName-currentTimestamp.json*. The timestamp format is MMDDYYYY-HHMMss.

If the directory does not exist, it is automatically created.

-Description *String*

Specifies the policy description.

-ComplianceRule *String*

Specifies the compliance rule. This can be one of the following values.

- **DoNotFlag**. Devices that are out of compliance are not flagged
- **FlagIfNotExactMatch**. If the software or firmware level that is installed on a resource is not an exact match with the update-compliance policy, the resource is flagged as non-compliant. For example, if you replace a network adapter in a server, and the firmware on that network adapter is different than the level identified in the update-compliance policy, then the server is flagged as non-compliant.

-PlatformId *String*

Specifies the ID of the platform (resource type) that is associated with the target component.

-ComponentId *String*

Specifies the target component ID.

Tip: If the target does not have a component, specify the platform ID.

-UpdatePackageId *String*

Specifies the target update package ID.

CommonParameters

This cmdlet supports the following common parameters: **-Verbose**, **-Debug**, **-ErrorAction**, **-ErrorVariable**, **-WarningAction**, **-WarningVariable**, **-OutBuffer**, **-PipelineVariable**, **-OutVariable**. For detailed information about each common parameter, see the [Microsoft PowerShell Common Parameters webpage](#).

Results

- **System.String** This cmdlet returns a string with fully-qualified path of the file.

Examples

The following example creates an update-compliance policy for Lenovo XClarity Administrator.

```
$result = New-LXCOUpdatePolicy -Name Policy_1 `
    -OutFile String $PSScriptRoot/../../lxco-updates/ `
    -ComplianceRule FlagIfNotExactMatch `
    -PlatformId lxca -ComponentId lxca `
    -UpdatePackageId lnvgy_sw_lxca_102-2.7.0_angos_noarch$result
```

Split-LXCOUpdatePolicy

This cmdlet unassigns an update-compliance policy from specified resources.

Note: You cannot pipe objects to this cmdlet.

Syntax

```
Split-LXCOUpdatePolicy [-Connection LXCOConnection]  
                        -ResourceIDs String[]  
                        [CommonParameter]
```

Parameters

-Connection *LXCAConnection*

Specifies the connection to the Lenovo XClarity Orchestrator server. If no connection is specified, the result from the last [Connect-LXCO](#) cmdlet is used.

-ResourceIDs *String[]*

Specifies a list of IDs of resource managers and managed devices.

CommonParameters

This cmdlet supports the following common parameters: **-Verbose**, **-Debug**, **-ErrorAction**, **-ErrorVariable**, **-WarningAction**, **-WarningVariable**, **-OutBuffer**, **-PipelineVariable**, **-OutVariable**. For detailed information about each common parameter, see the [Microsoft PowerShell Common Parameters webpage](#).

Results

- **Lenovo.XClarityOrchestrator.PowerShell.Data.RequestStatusMessage** This cmdlet returns a **RequestStatusMessage** object that contains information about the request status (success or failure).

Examples

The following example unassigns a policy to a resource.

```
$cred = Get-Credential  
Connect-LXCO -HostUri 192.0.2.0 -Credential $cred -SkipCertificateCheck  
  
$resourceIds = @(  
    "69B926D8279411E89ECB7ED30AEC2017-DF5F931E7CA149928C99E84633EA5E9C",  
    "3AB281F826A811E8B58E7ED30AEC214F-DF5F931E7CA149928C99E84633EA5E9C"  
)  
$result = Split-LXCOUpdatePolicy -ResourceIDs $resourceIds  
$result  
  
Disconnect-LXCO
```

Update-LXCOfirmwareCatalog

This cmdlet refreshes the updates catalog by downloading information (metadata) about updates that are applicable to your managed resources or downloading specified packages from the Lenovo Support website.

Note: You cannot pipe objects to this cmdlet.

Syntax

```
Update-LXCOfirmwareCatalog [-Connection LXCOConnection]  
                             [-FirmwareAge String[]]  
                             -IDs String[]  
                             [CommonParameter]
```

```
Update-LXCOfirmwareCatalog [-Connection LXCOConnection]  
                             -Download  
                             -IDs String[]  
                             [CommonParameter]
```

Parameters

-Connection *LXCACONNECTION*

Specifies the connection to the Lenovo XClarity Orchestrator server. If no connection is specified, the result from the last [Connect-LXCO](#) cmdlet is used.

-FirmwareAge *String*

Indicates which firmware to refresh. This can be one of the following values.

- **all**. All versions
- **latest**. (default) Only the latest version

-ID *String[]*

List of IDs of update-catalog entries, including resource types (platforms), components, and update packages to refresh.

-Download

If specified, the updates packages are downloaded to the updates repository. Otherwise, information about available update packages (metadata) is downloaded.

CommonParameters

This cmdlet supports the following common parameters: **-Verbose**, **-Debug**, **-ErrorAction**, **-ErrorVariable**, **-WarningAction**, **-WarningVariable**, **-OutBuffer**, **-PipelineVariable**, **-OutVariable**. For detailed information about each common parameter, see the [Microsoft PowerShell Common Parameters webpage](#).

Results

- **Lenovo.XClarityOrchestrator.PowerShell.Data.LXCOJob** If the request was accepted the orchestrator server, this cmdlet returns an [LXCOJob](#) object that contains the status of the remove request.
- **Lenovo.XClarityOrchestrator.PowerShell.Data.RequestStatusMessage** If an error occurred, this cmdlet returns a [RequestStatusMessage](#) object that contains information about the reason of the failure.

Examples

The following example refreshes the information (metadata) for updates specified using the IDs parameter.

```
$cred = Get-Credential
Connect-LXCO -HostUri 192.0.2.0 -Credential $cred -SkipCertificateCheck

$result = Update-LXCOFirmwareCatalog -IDs "repopack"
$result | Format-List

Disconnect-LXCO
```

The following example downloads specified updates, specified using the IDs parameter.

```
$cred = Get-Credential
Connect-LXCO -HostUri 192.0.2.0 -Credential $cred -SkipCertificateCheck

$result = Update-LXCOFirmwareCatalog -Download -IDs "lnvgy_sw_lxca_systemrepo4-3.4.0_anyos_noarch",`
                                                "lnvgy_sw_lxca_thinksystemrepo4-3.4.0_anyos_noarch"
$result | Format-List

Disconnect-LXCO
```


Lenovo