SOFTWARE MANUAL

LG Cloud Device Manager 3.1

Keep the manual where it is easily accessible for users of the product.

www.lg.com

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1. Introduction

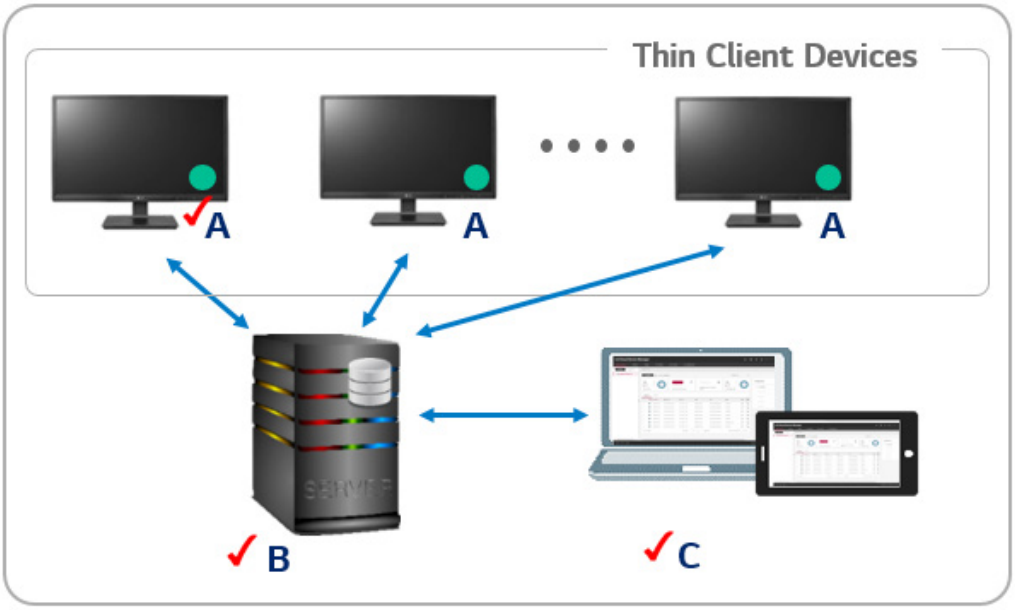
Introduction of [LG Cloud Device Manager]

[LG Cloud Device Manager] is the next-generation technology that systematically manages and monitors devices, helping you manage your business and tasks effectively.

Terms

Terms	Description
LG CDM	LG Cloud Device Manager
Device	A Thin Client product which is managed by LG CDM.
LG Cloud Agent	SW installed on the device, allowing communication with LG CDM
Smart Start	Configuration that cause the device to operate in kiosk mode
DNS(Domain Name System)	Servers that rename the host's domain to the host's network address or vice versa
DHCP(Dynamic Host Configuration Protocol)	Protocol that automatically provides clients with the IP address of the host and default settings for various TCP/IP protocols
SMTP(Simple Mail Transfer Protocol)	Protocol used to send e-mail on the Internet
IP(Internet Protocol)	Protocol that the sending and receiving hosts use to send and receive information on the packet-switched network
FQDN(Fully Qualified Domain Name)	Full domain name, including host name and domain name
P2P	peer-to-peer network
Group token	Allows the device to be turned on remotely via the network's Ethernet.
Profile	A bundle of pre-set values of device attributes
Template	A bundle of commands to execute on the device
Events	Records of actions processed within LG CDM
Task	A command that is given to the device from LG CDM
Heartbeat	System messages sent periodically when there are no queued messages.
Check in	Check that the settings on the device are the same as those specified in the CDM
Remote Repository	Remote File Storage
Cluster	Groups for synchronizing file stores
Wake On Lan	Allows the device to be turned on remotely via the network's Ethernet.
Shadowing(VNC)	Graphical desktop sharing system to control devices remotely
RDS(Remote Desktop Services)	Provide individual virtualized applications, secure mobile and remote desktop access
RDP(Remote Desktop Protocol)	A protocol for using a desktop computer remotely
UWF(Unified Write Filter)	A function to limit writing on the drive to protect it
AD(Active Directory)	Microsoft’s proprietary directory service

LG CDM Diagram



- LG Cloud Agent (A): A client program that is installed on the device to carry out the commands received from the server
- LG CDM Server (B): A program that receives commands from the administrator and delivers such commands to the device
- LG CDM UI Console (C): A program for administrators to connect to the server and issue commands

System Specifications

LG CDM Server Installation Specifications

Category	Detailed Specifications
Processor	Quad core, 3.0 GHz CPU based system or above
RAM	8 GB (for 10,000 devices) or 16 GB (for 50,000 devices) or above
HDD	2 x 1 TB SAS HDD for RAID configuration
Ethernet	1/10 GBPS Ethernet port
OS	Windows Server 2016 or higher (x86_64)
Browser	• Google Chrome: v. 28 or higher • Mozilla Firefox: v. 21 or higher • Apple Safari: v. 5.1.7 or higher (the Windows version of Safari is not supported) • Edge: v. 98 or higher

Remote Repository Installation Specifications

Category	Detailed Specifications
Processor	Quad core, 3.0 GHz CPU based system or above
RAM	8 GB or above
HDD	500 GB or above
Ethernet	1/10 GBPS Ethernet port
OS	Windows Server 2016 or higher(x86_64)

List of Supported Products

- 24CK550W
- CL600W
- 27CN650W
- 34CN650W
- 24CN650W
- 24CN670W
- 15ZT90P
- 14ZT90P
- CQ600W
- 24CQ650W
- 27CQ670W
- 24CR670W
- 14UT70Q
- 16UT70Q
- 17ZT90P

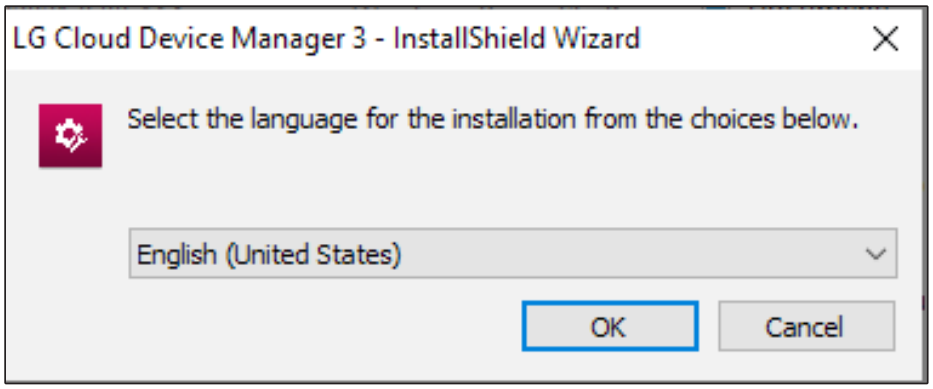
2. Software Installation Guide

LG Cloud Device Manager Installation

Upon initial installation (including deletion and reinstallation)

1 Run the installation file
- Installation parameters such as Silent install, etc., are not supported.

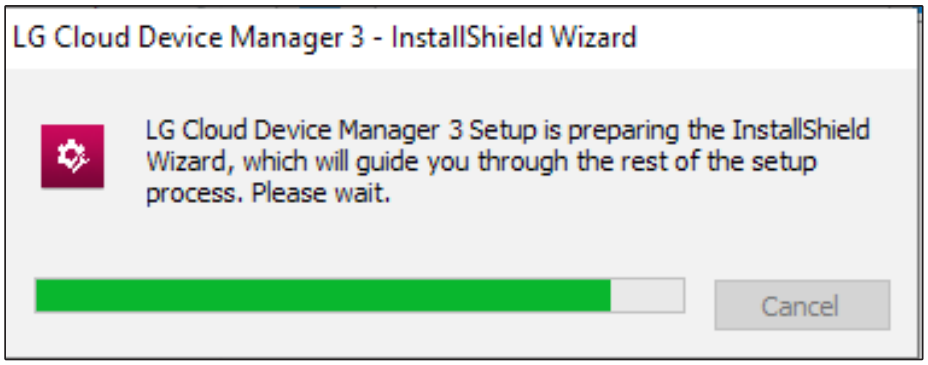
2 Select installation language



- You can select 8 languages.
  - [Korean], [English (United States)], [Chinese] (Simplified), [Japanese], [German], [Spanish], [French], [Portuguese (Brazilian ABNT)]

3 Select a language and click the OK button.

Preparation stage

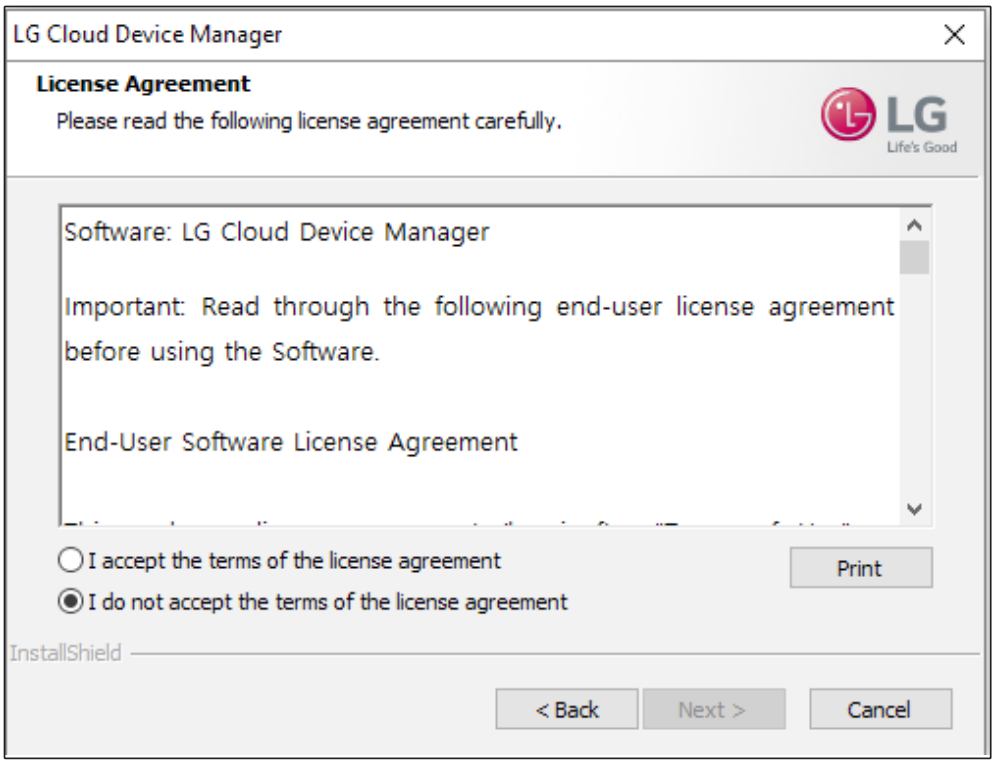


This is the preparation stage for installation after selecting the language. After a few seconds, it automatically proceeds to the next stage.
You can cancel the installation at this stage, and if canceled, the installer will move to the exit stage.

Welcome stage

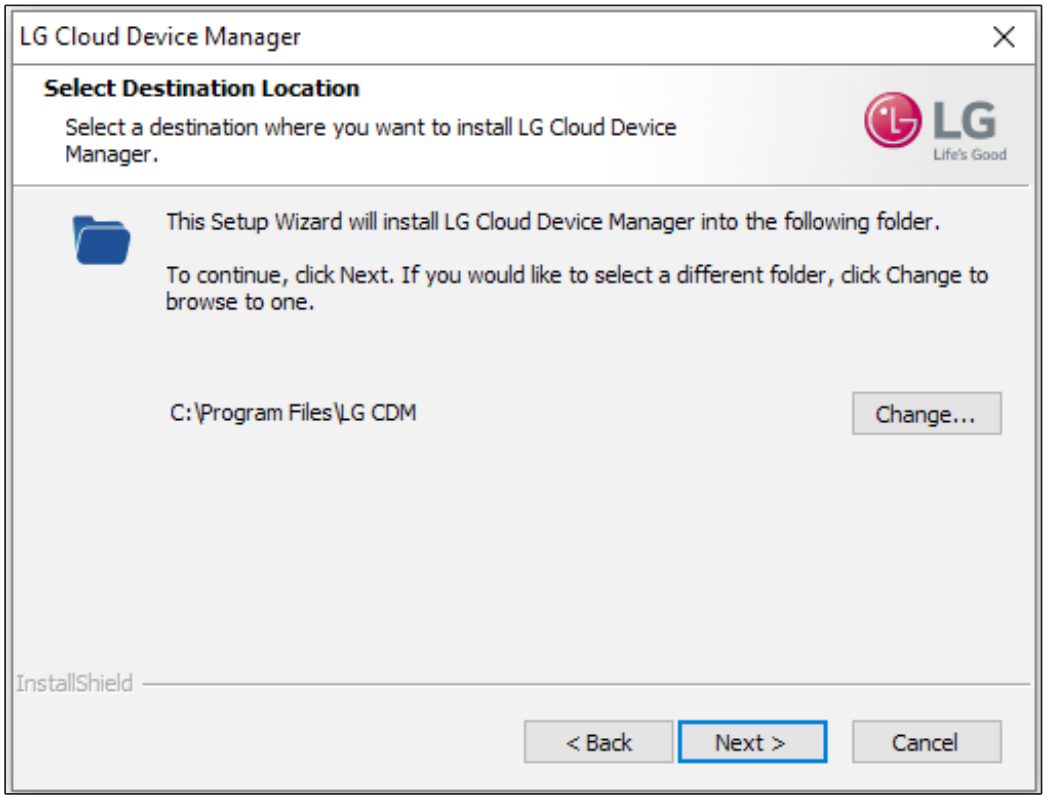
This is a welcome stage that checks the program name and whether you want to install it.
Click the Next button to proceed to the next stage.

End user license agreement stage



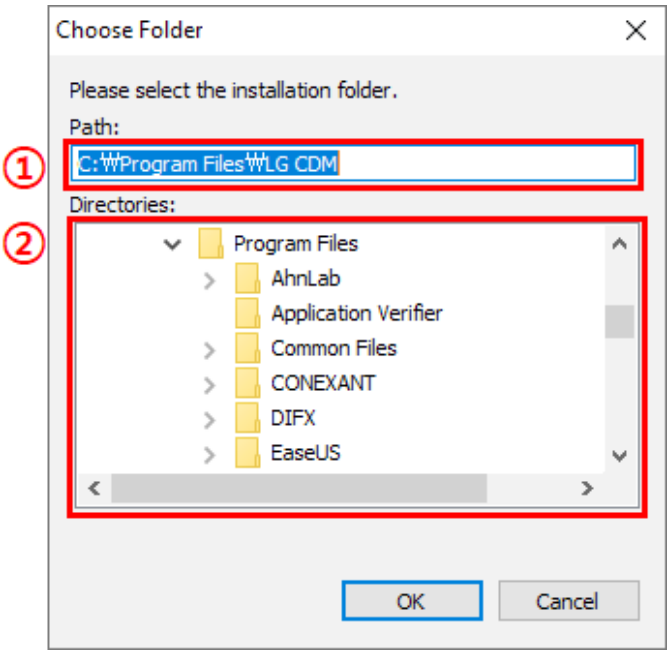
This stage asks you to agree to the LG CDM's license.
If you do not agree to the terms and conditions, you cannot proceed to the next stage.

Select installation location



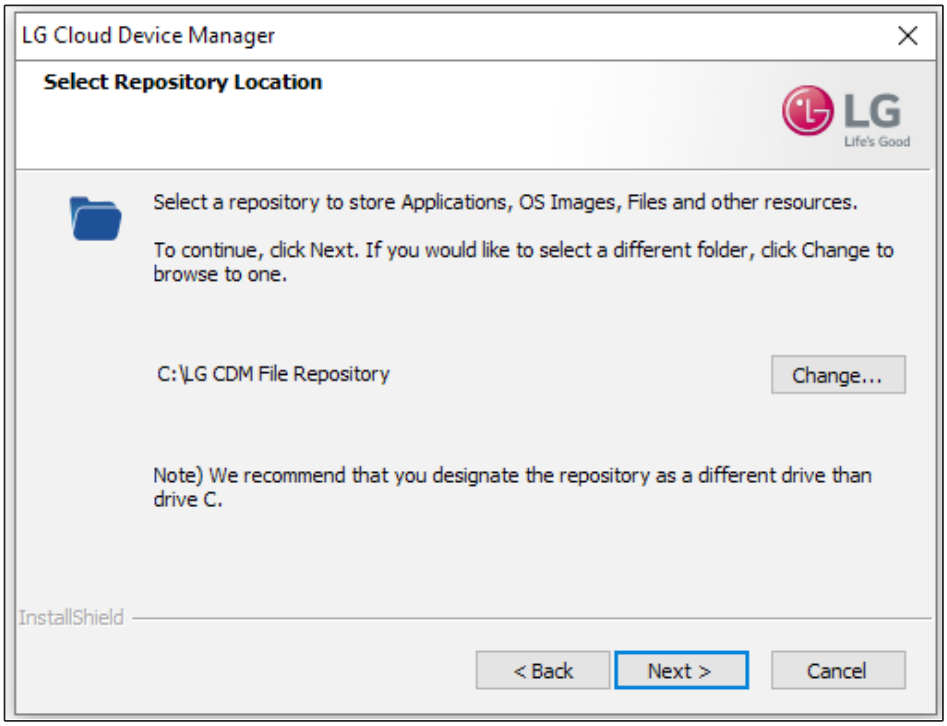
In this stage, you select the location where LG CDM will be installed.
The default setting for the installation path is C:₩Program Files₩LG CDM.

• How to change the installation path



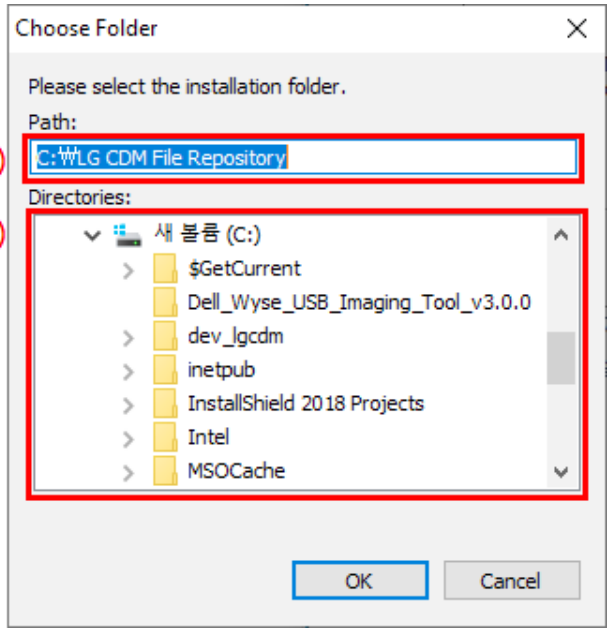
• There are two ways to change the path.
- Enter the installation path directly in the path input box and click the OK button. If there is no folder in the specified path, the installer creates one.
  Example) C:₩LG CDM
- In the tree structure at the bottom of the directory, select the desired folder for installation and click the OK button.

Select repository location



In this stage, you can choose a file repository location.
The default value of the repository path is C:₩LG CDM File Repository.

• How to change the repository path



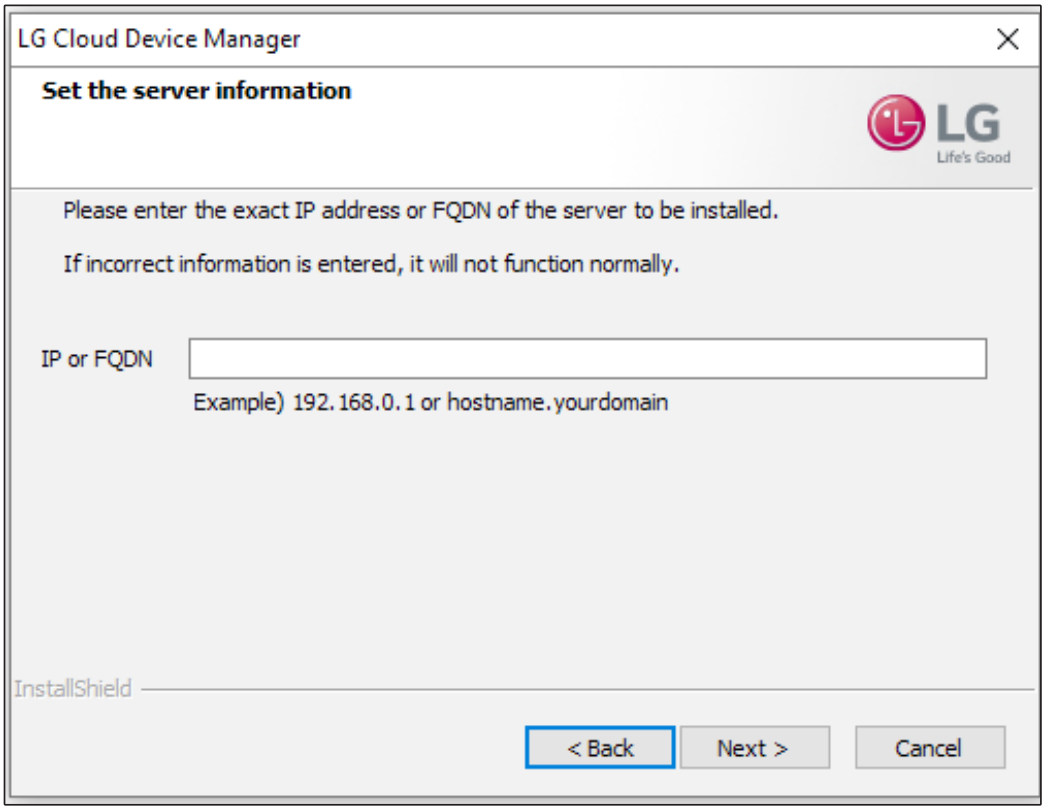
• There are two ways to change the path.

- Enter the installation path directly in the path input box and click the OK button. If there is no folder in the specified path, the installer creates one.
  Example) D:₩LG CDM File Repository
- In the tree structure at the bottom of the directory, select the desired folder for installation and click the OK button.

NOTE

- The file repository is large since it contains the copied images, applications to be installed, files to be delivered to the device, etc., are stored. We **recommend selecting a drive other than the C drive** where the operating system is installed.
- If it is installed on the C drive, the system may not operate normally because the disk capacity is full.

Server information settings

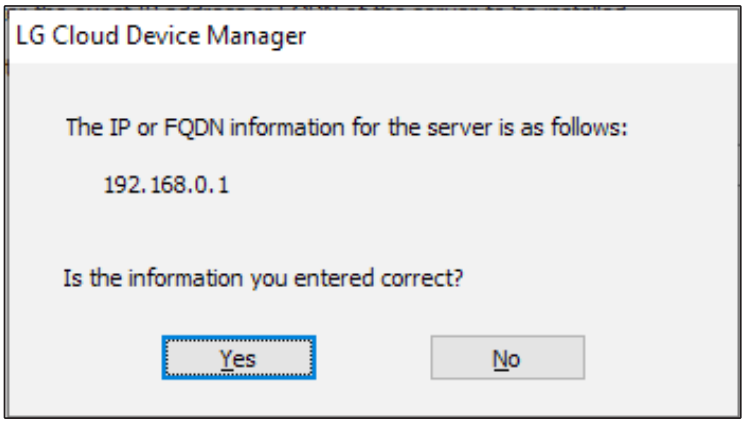


This is the stage that you can enter the IP address or FQDN information of the server where LG CDM will be installed.

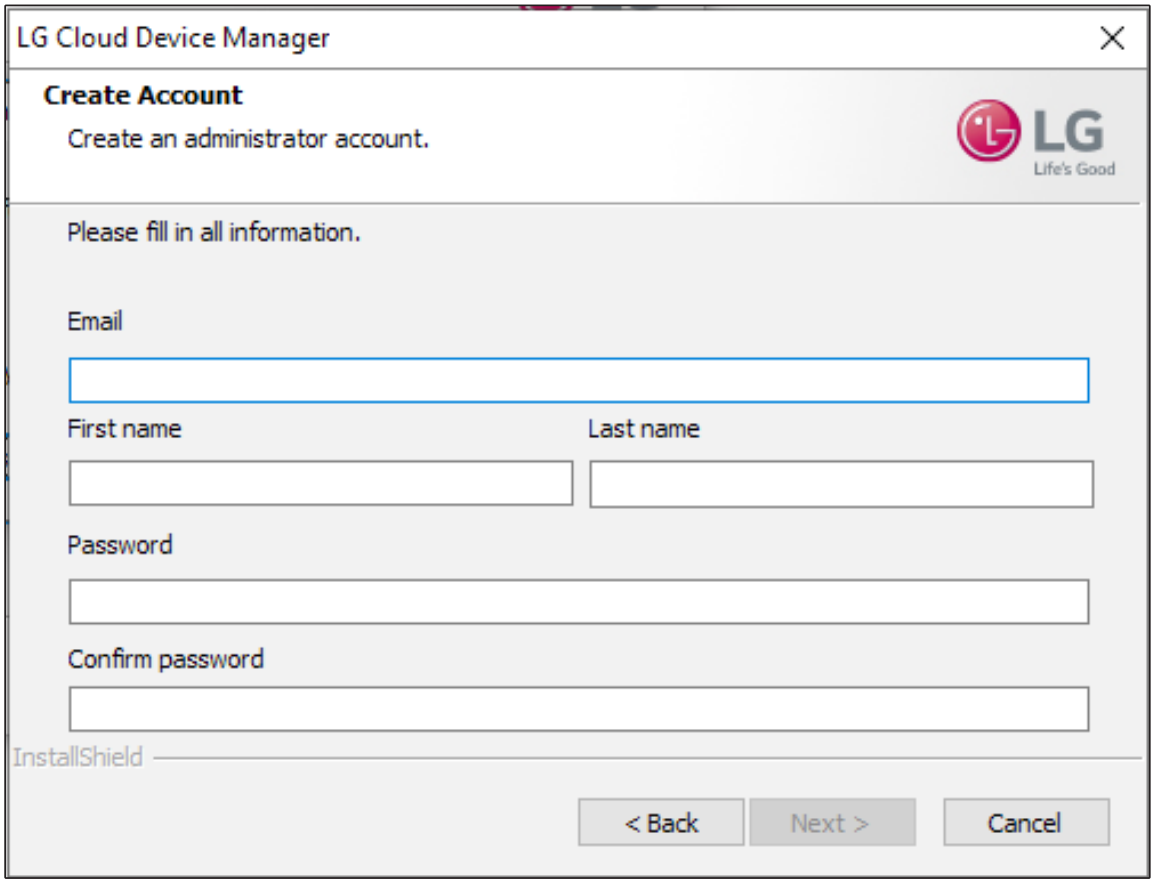
NOTE

- It does not check whether the entered IP or FQDN is valid.
- **Even if incorrect information is entered (i.e., when IP/FQDN value is entered in the wrong format or it is different from the actual information), the installation is completed but the LG CDM will not operate normally.** Therefore, you must make sure that the information you entered is correct.

When you click the Next button, a pop-up will appear. Double-check that the information you entered is correct.



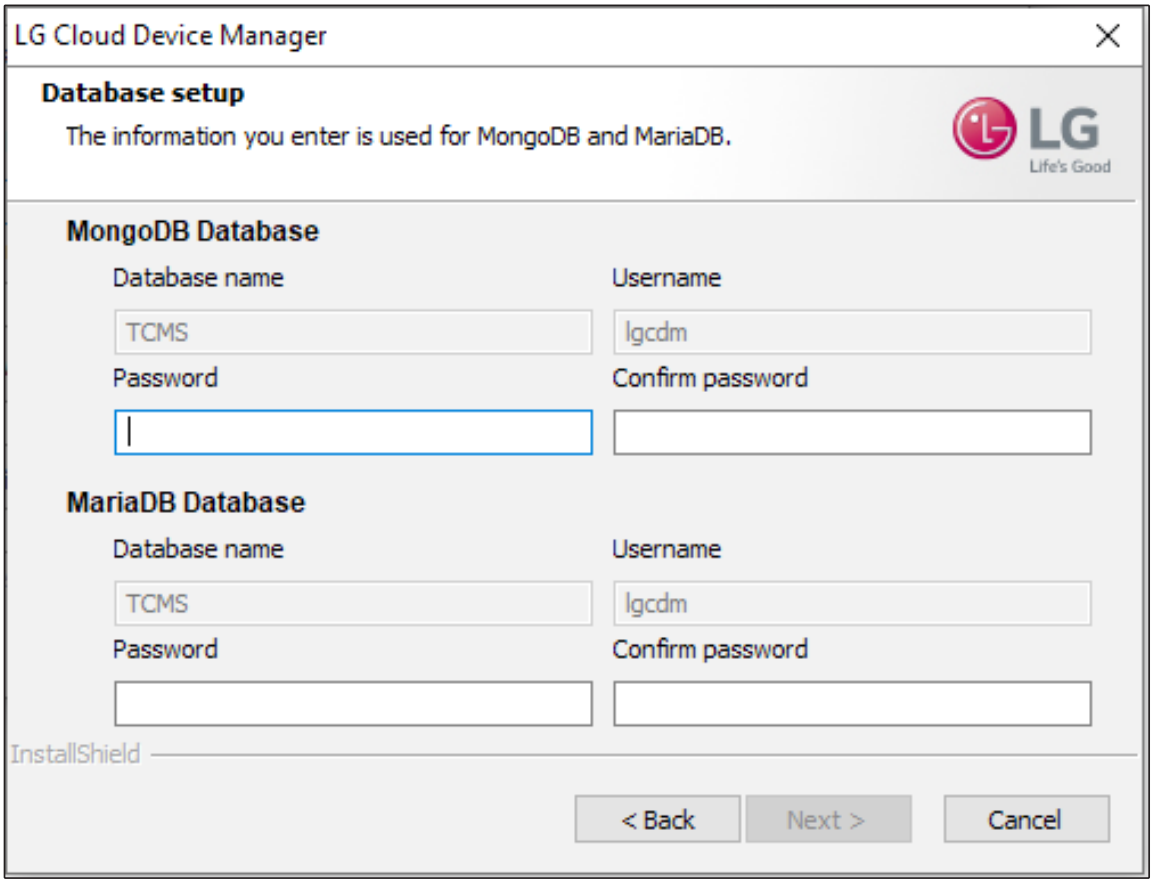
Create initial user account



At this stage, you can create an initial user account. The criteria for each input are as follows:

- [Email]:
  - Up to 50 characters
  - Must contain only one @ character
  - Must have at least one character in front of @
  - Must be separated by a dot after @
  - Must have one or more characters between @ and the dot
  - Must have one or more characters after the dot
  - Allowed characters: You can use only @0123456789-_. ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz
- [First name]: Up to 64 characters
- [Last name]: Up to 64 characters
- [Password]:
  - 10-50 characters
  - [Password] and [Confirm password] must match
  - Allowed characters: 0123456789ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz~!@#$%^&*()_-+=|{}[]<>,./? can be used only

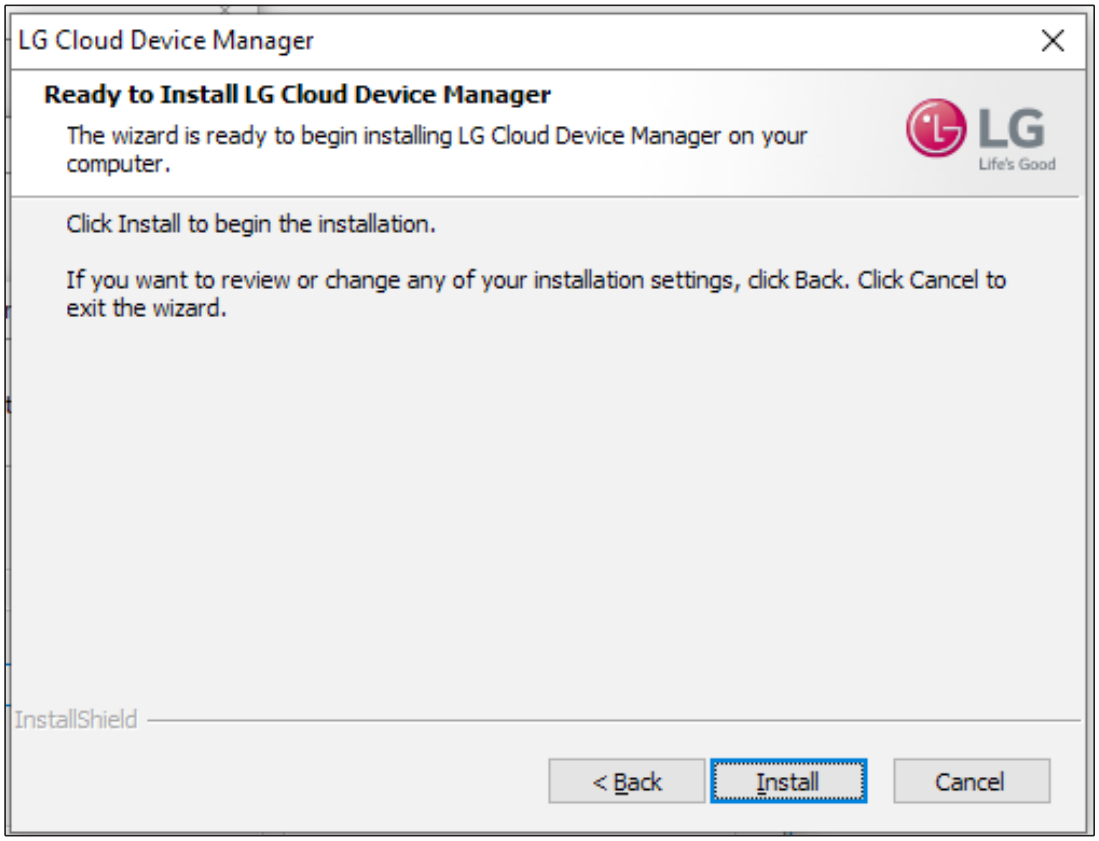
Database settings



This is the stage that you can see the information of the database (MongoDB, MariaDB) used by LG CDM ([Database Name], [User Name]) and set the [Password].
The criteria for [Password] are as follows:

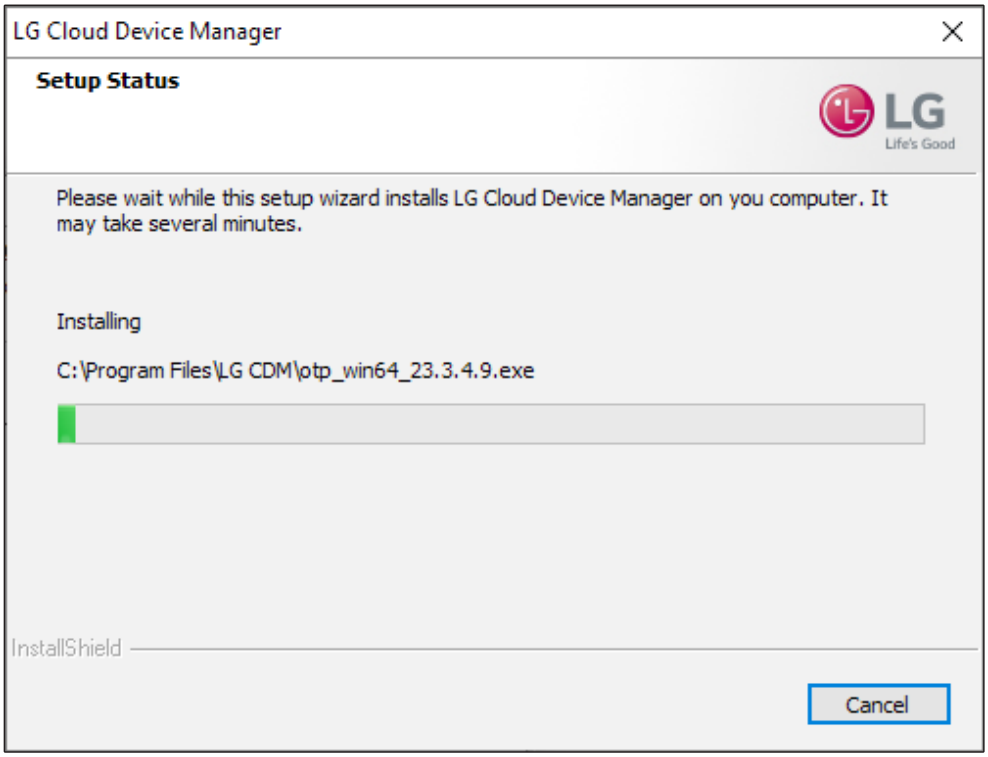
- Length of the password: 8 to 31 characters
- A password must contain lowercase letters (a to z), uppercase letters (A to Z), and numbers (0 to 9) in English.
- Quotation marks ('), double quotation marks ("), backslashes (₩), and space ( ) cannot be used in the password.

Installation preparation stage

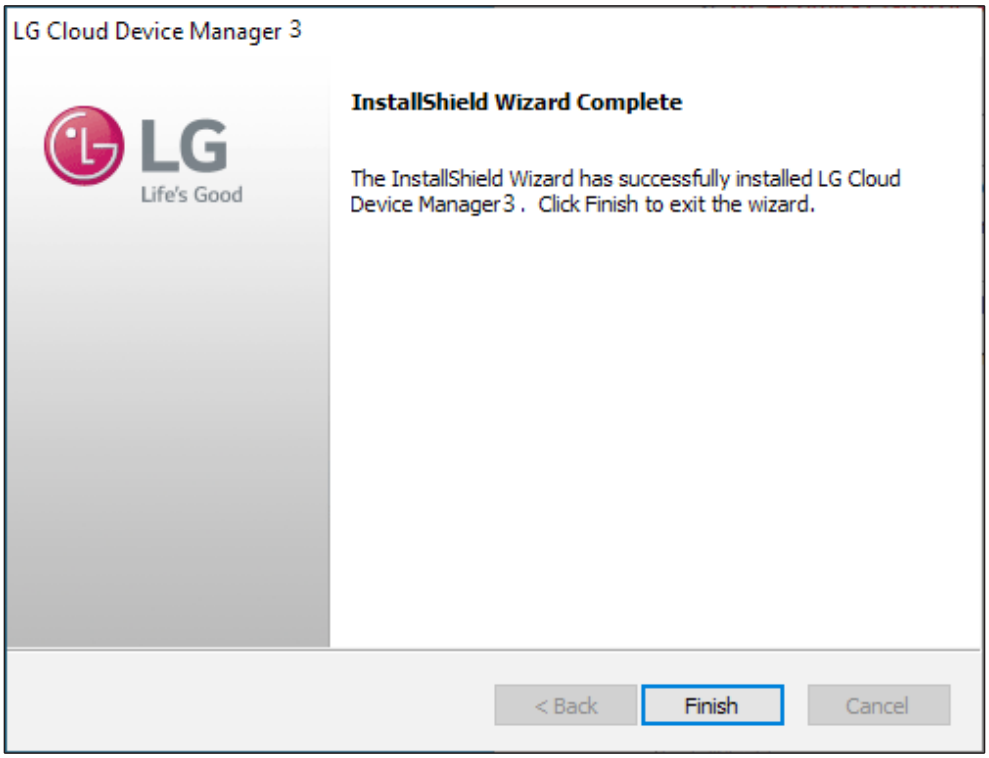


This stage asks if you want to install the program. If you want to edit the previously set information, click the Back button to go to the previous stage, and if you want to proceed with the installation, click the Install button to go to the next stage.

Installation stage



At this stage, you can copy the files/folders to be installed, and install the program (Erlang/VS Redistributable Package) that requires pre-installation to operate LG CDM.
Register and control system environment settings and various services (Tomcat/MariaDB/MongoDB/RabbitMQ).
It usually takes 5 to 10 minutes, but the time may vary depending on the performance of the PC.



This stage informs you that the installation is complete. Click the Completed button to exit the installation file.

For LG CDM Update

To update LG CDM without deleting the old version from the system, simply run LG CDM 3.1 installer executable. The Installer Update feature allows for an easier transfer of the database, including LG CDM user and device information from the old version.

- **LG CDM Installer Update Support Table**

From \ To	2.09.25 (2.1 MR)	3.00.12 (3.0)	3.00.56 (3.0 MR)	3.01.17 (3.1)	3.01.53 (3.1 MR)
2.07.01 (2.0)	O	X	X	X	X
2.08.18+ (2.1)	X	O	O	X	X
2.09.22+ (2.1 MR)	X	O	O	X	X
3.00.12 (3.0)	X	O (Data Restore)	O (Data Restore)	O	O
3.00.56+ (3.0 MR)	X	X	O (Data Restore)	O	O
3.01.00+ (3.1)	X	X	X	O (Data Restore)	O (Data Restore)
3.01.53 (3.1 MR)	X	X	X	X	O (Data Restore)

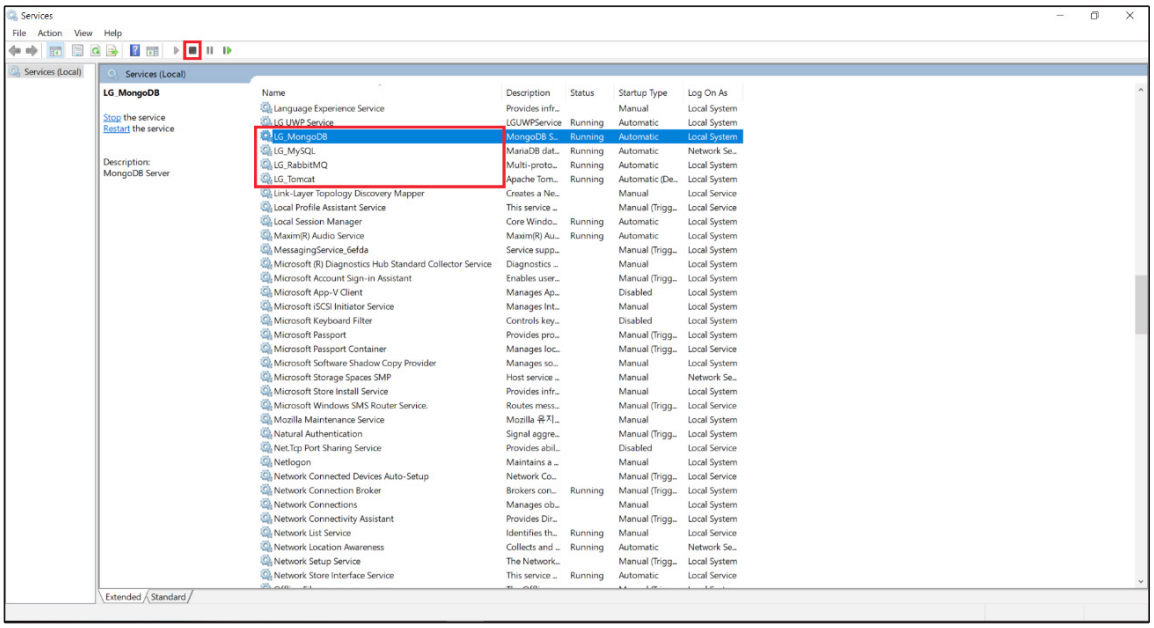
- **Steps to update LG CDM**

1. (Recommended) Before running LG CDM 3.1 installer executable, stop following services.
   A. Services to stop:
      i. LG_MongoDB
      ii. LG_MySQL
      iii. LG_RabbitMQ
      iv. LG_Tomcat
   B. Method 1 – Windows Command Prompt (cmd.exe)
      i. Run cmd.exe as administrator
      ii. Use commands below to stop the services:
      - sc stop LG_MongoDB | sc stop LG_MySQL | sc stop LG_RabbitMQ | sc stop LG_Tomcat

C. Method 2 – Windows Services (See the figure below)

i. Open Windows Services through Windows Run > services.msc

ii. In Services, select and stop each services manually.



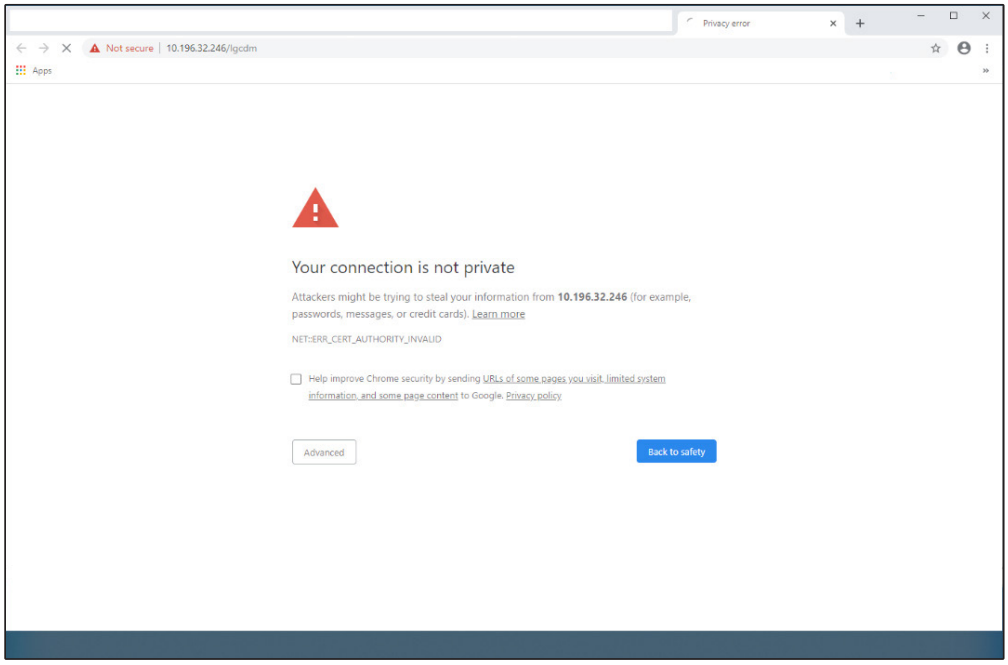
2. Run the new LG CDM 3.1 installer executable without deleting the old CDM to proceed with the LG CDM update.
   LG CDM Installer will automatically backup the database from the old LG CDM and restore it to the new version.
   Note, [Task Management] > [Summary] / [Detail] history will be lost.

Connect to LG CDM

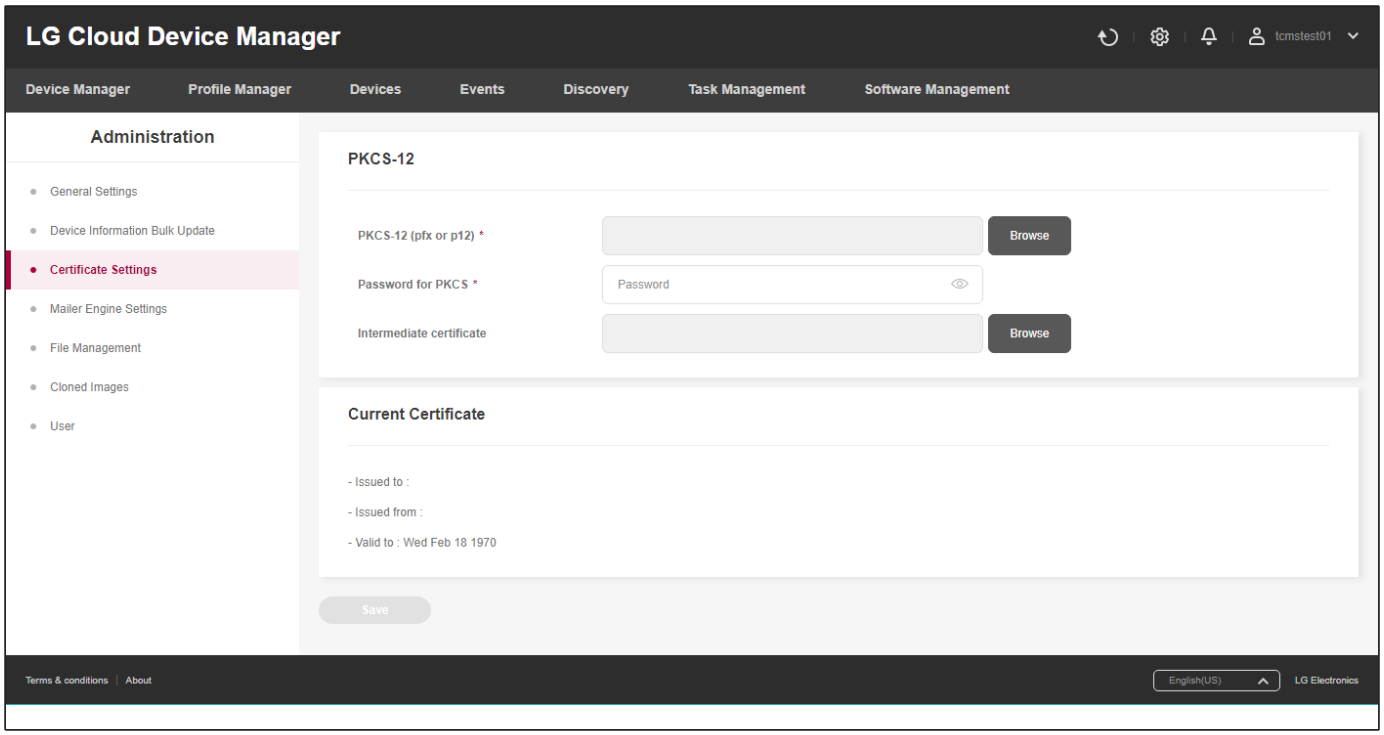
When the installation of LG CDM is completed, a shortcut is created on the desktop (LG CDM.lnk) and the Start menu (Start Menu → LG Electronics → LG CDM). Launch the shortcut on the desktop.

- When accessing from an external device, use the URL below.
  - IP address: https://<ip address>/lgcdm
  - FQDN: https://<FQDN>/lgcdm

Upon the initial connection, a certificate warning window will appear. Click the Advanced button to enter. (for Chrome)



It is recommended to upload a valid certificate after entering Sign in → [Administration settings] (⚙) → [Certificate Settings].



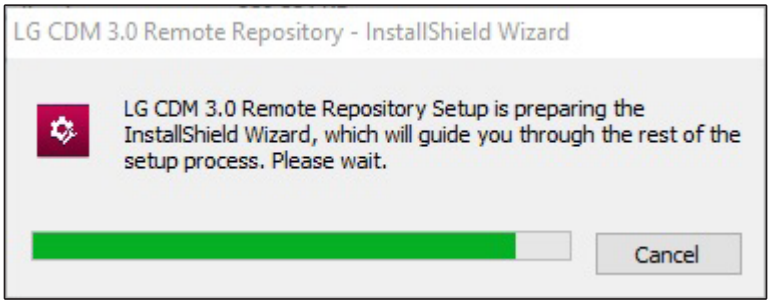
The Sign-in page will be displayed. Sign in by entering the email and password information created in the initial user account creation stage.

Remote Repository Installation Guide

Upon initial installation (including deletion and reinstallation)

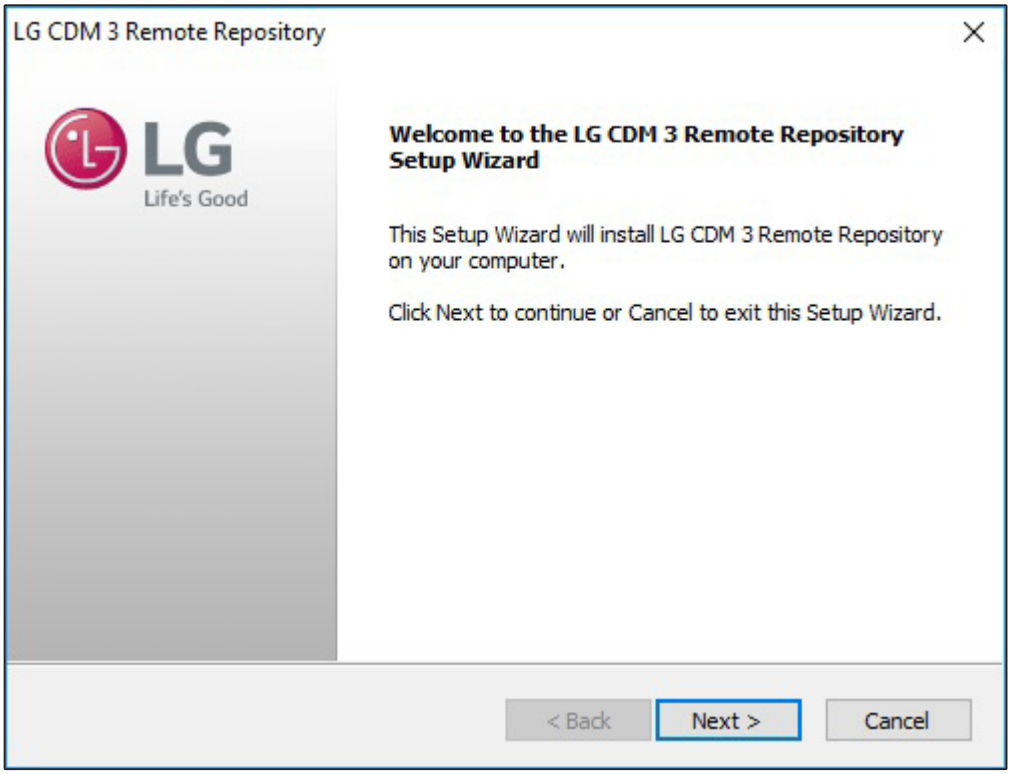
Run the installation file

Preparation

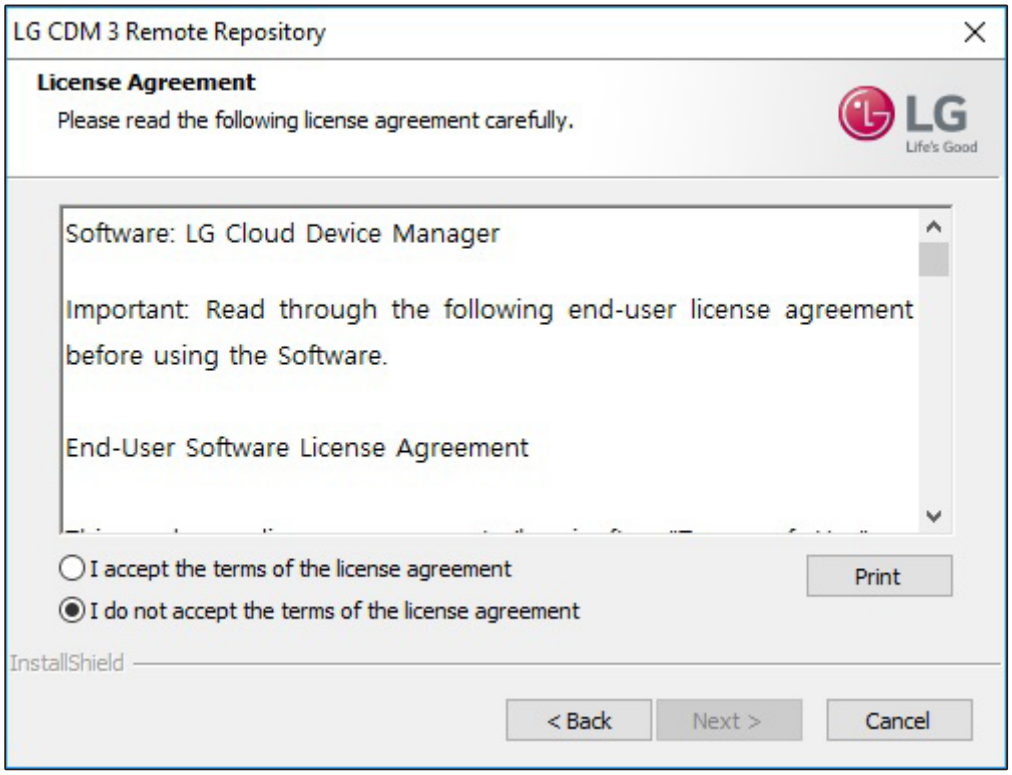


This step will be displayed for a few seconds before moving on to the next step.

Welcome stage

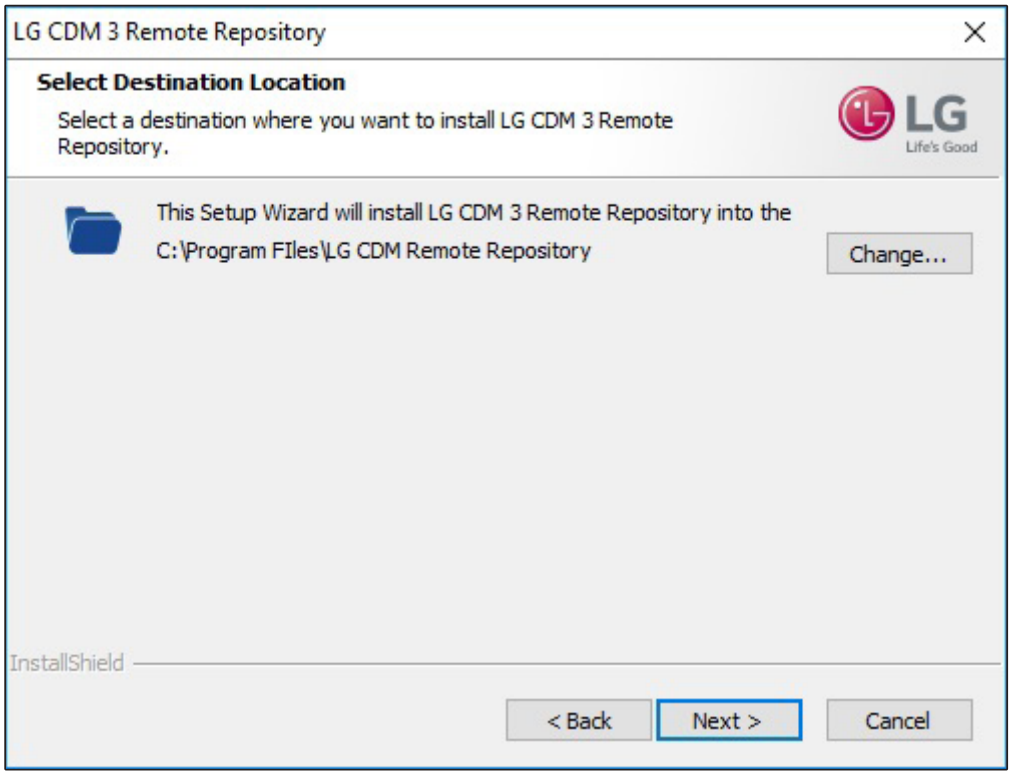


End user license agreement stage



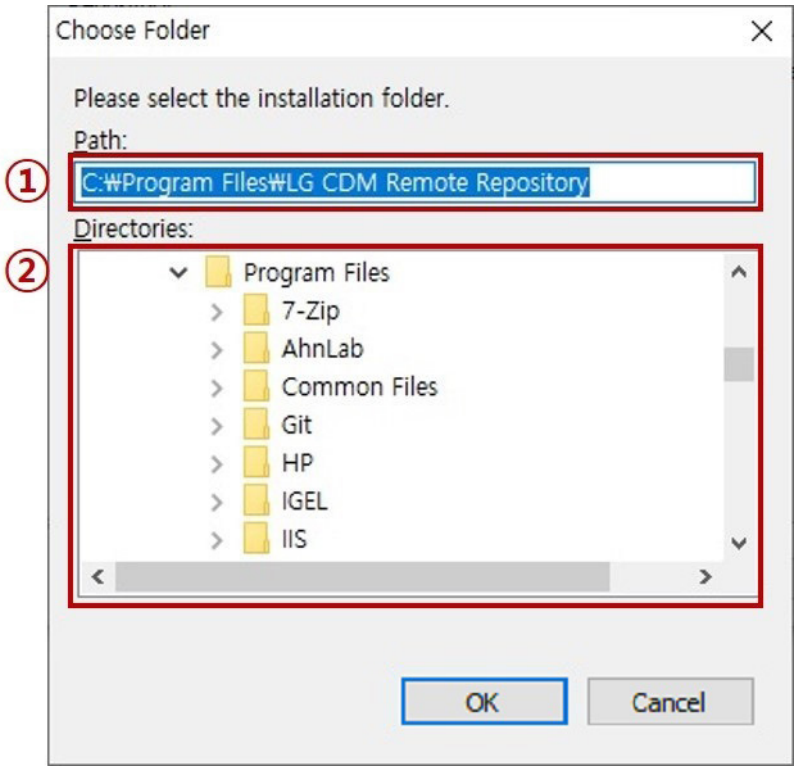
If you do not agree to the User License Agreement, you cannot proceed to the next step.

Select installation location



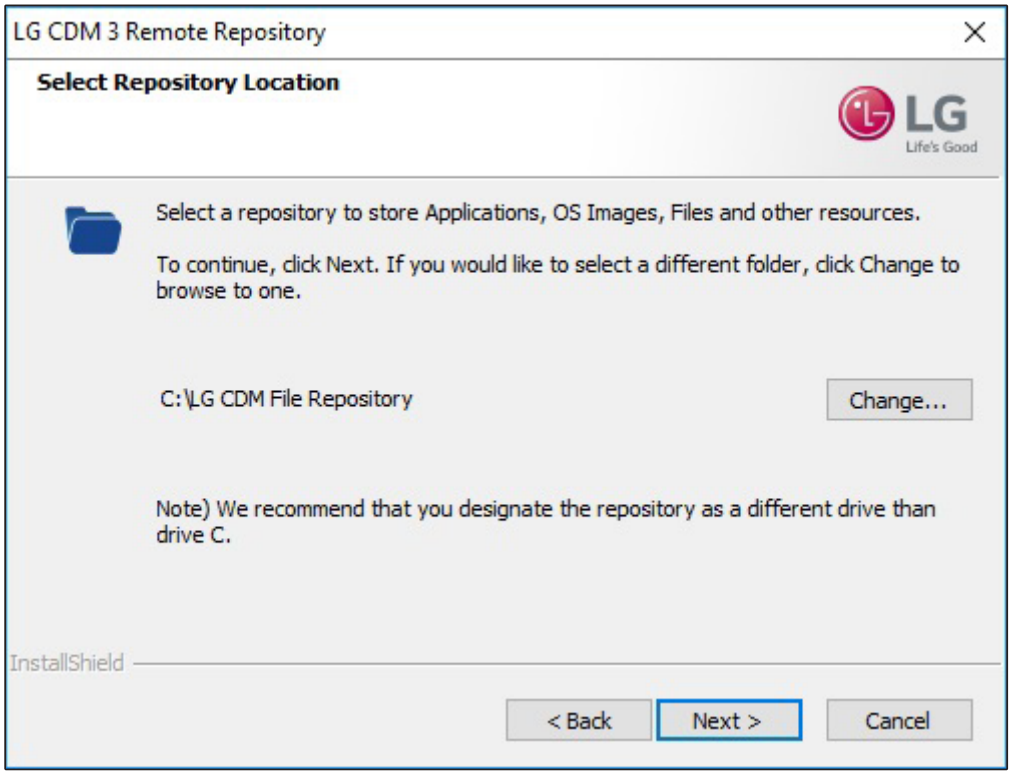
In this step, select the location to install the LG CDM Remote Repository.
If you want to change the default path, click the Change button to specify the path, and then click the Next button to go to the next step.
The default setting for the installation path is C:₩Program Files₩LG CDM Remote Repository.

- When you click the Change button, the following pop-up window appears, allowing you to specify the installation path.



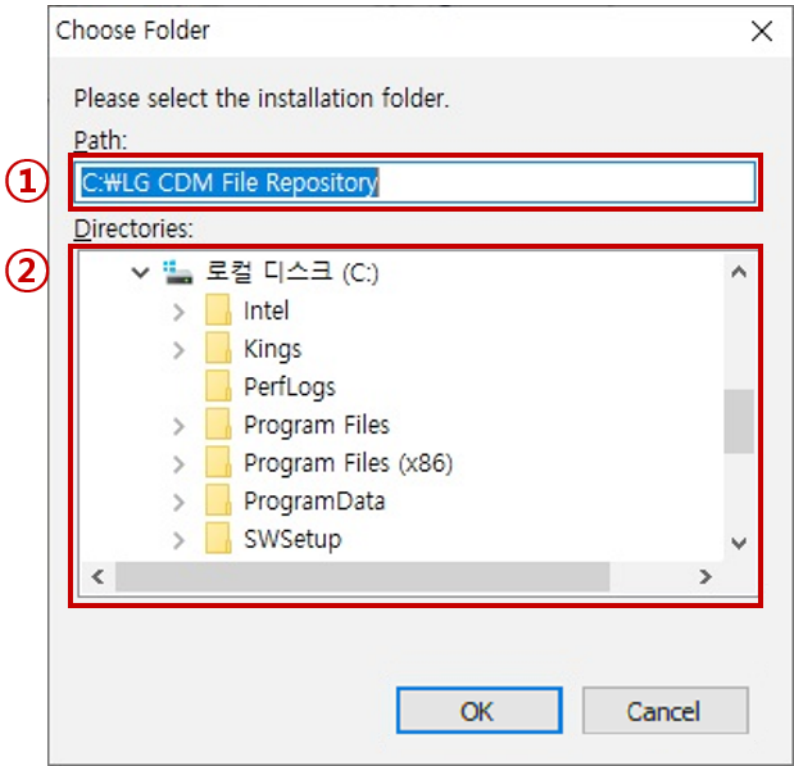
- There are two ways to change the path.
  - Enter the installation path directly into the input box at the bottom of the path and click the OK button. If there is no folder in the specified path, the installer creates one.
    Example) C:₩LG CDM Remote Repository
  - In the tree structure at the bottom of the directory, specify the desired folder for installation and click the OK button.

Select repository location



In this stage, you can choose a file repository location.
If you want to change the default path, click the Change button to specify the path, and then click the Next button to go to the next step.
The default setting for the installation path is C:₩LG CDM File Repository.

- When you click the Change button, the following pop-up window appears, allowing you to specify the installation path.

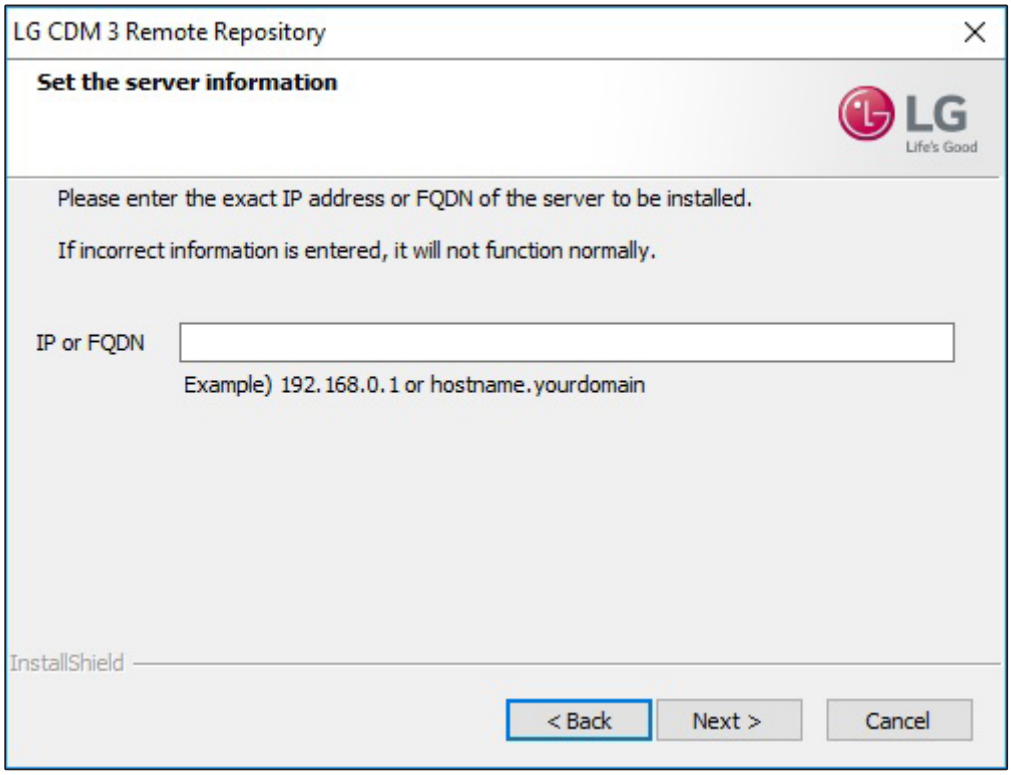


- There are two ways to change the path.
  - Enter the path directly into the input box at the bottom of the path and click the OK button. If there is no folder in the specified path, the installer creates one.
    Example) D:₩LG CDM File Repository
  - In the tree structure at the bottom of the directory, specify the desired folder for installation and click the OK button.

NOTE

- The file repository is large since it contains the copied images, applications to be installed, files to be delivered to the device, etc., are stored. We **recommend selecting a drive other than the C drive** where the operating system is installed.
- If it is installed on the C drive, the system may not operate normally because the disk capacity is full.

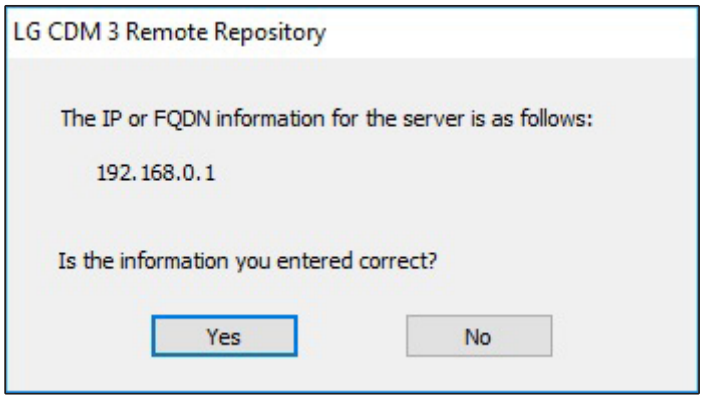
Repository information settings



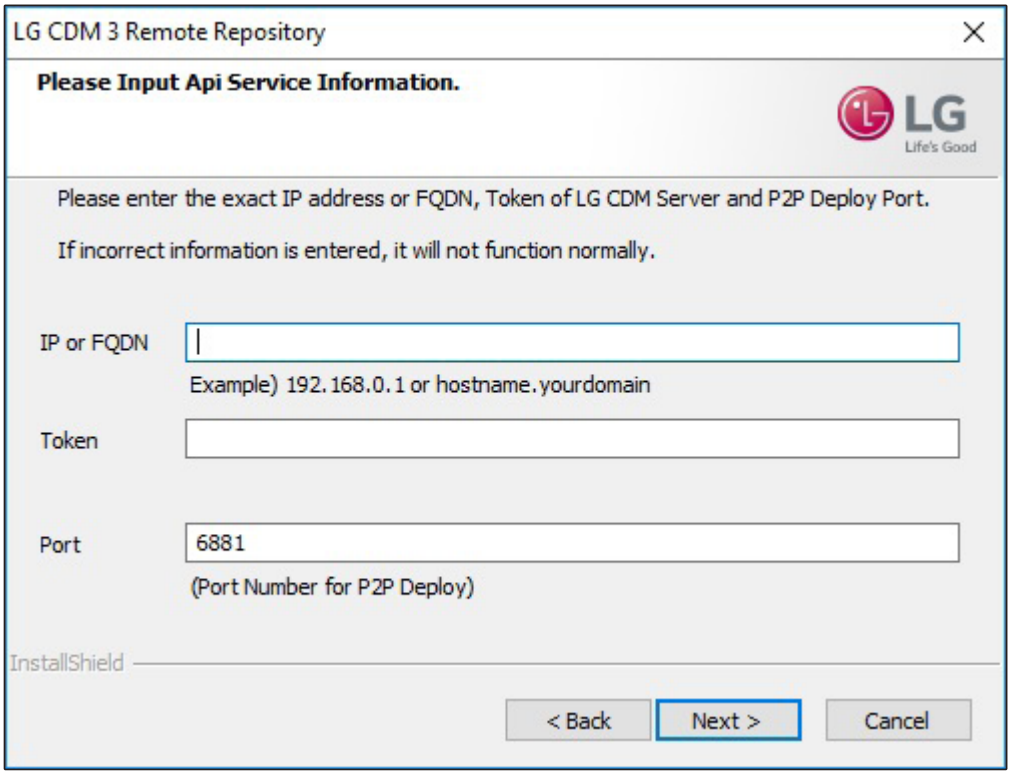
In this step, you can enter the IP address or FQDN information of the PC where LG CDM Remote Repository is to be installed.
When you click the Next button, a pop-up window will appear. Double-check to make sure that the information you have entered is correct.

NOTE

- It does not check whether the entered IP or FQDN is valid.
- Installation may complete even if incorrect information has been entered (i.e., when the IP/FQDN value is entered in the wrong format or is different from the actual information), but the program will not operate normally. Therefore, you must make sure that the information you entered is correct.



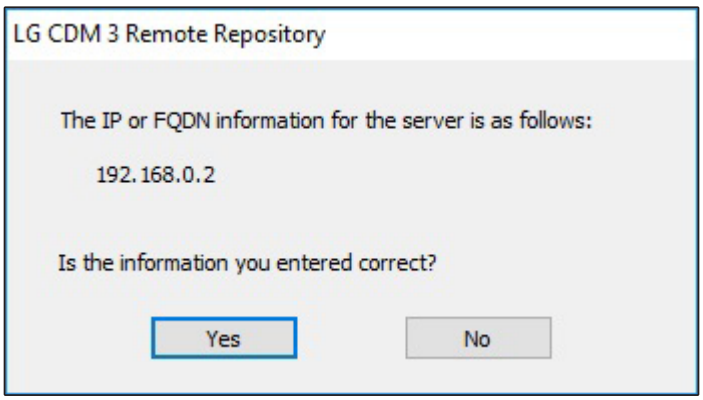
Server information settings



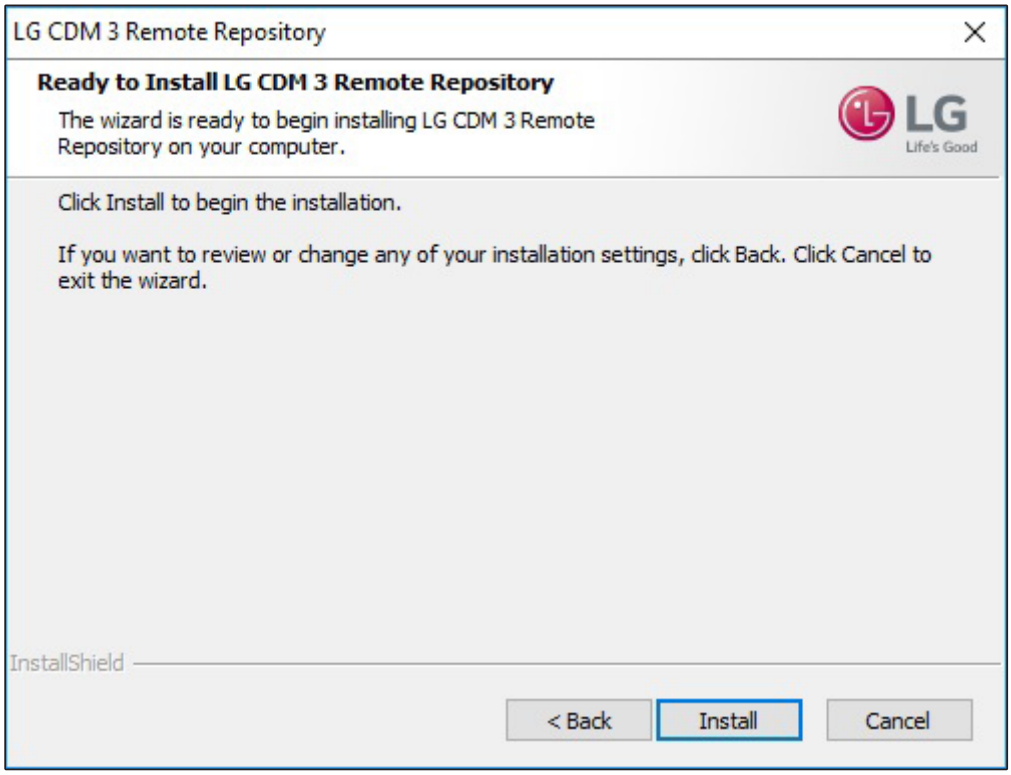
This is the stage to input the IP address or FQDN information of the server where LG CDM has been installed, Token, and P2P Deploy Port information.
For Token, enter the 12-digit key created when installing the LG CDM server. (After connecting to LG CDM, you can check it in [Administration Settings] (⚙) - [File Repository].)
Port is the P2P Deploy port specified when installing LG CDM, and if there are no special changes on the LG CDM server, enter the default value of 6881.
When you click the Next button, a pop-up window will appear. Double-check to make sure that the information you have entered is correct.

NOTE

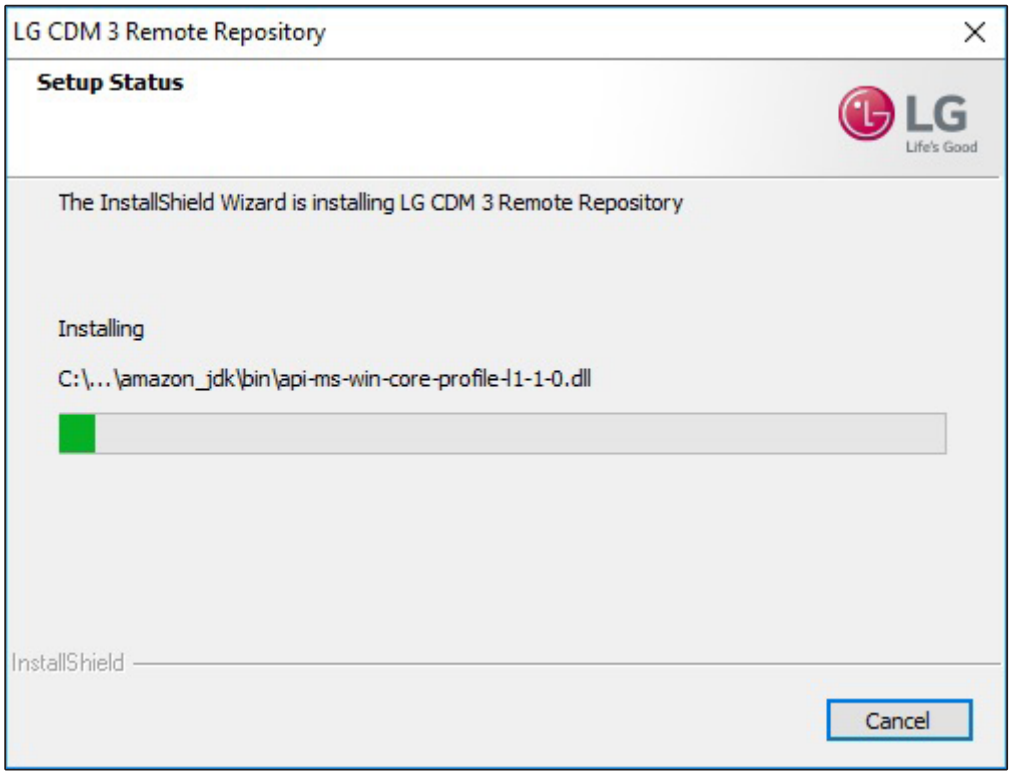
- It does not check whether the entered IP or FQDN is valid.
- If you do not enter a valid Token, the remote repository will not connect to the LG CDM server.
- Installation may complete even if incorrect information has been entered (i.e., when the IP/FQDN value is entered in the wrong format or is different from the actual information), but the program will not operate normally. Therefore, you must make sure that the information you entered is correct.



Installation preparation stage

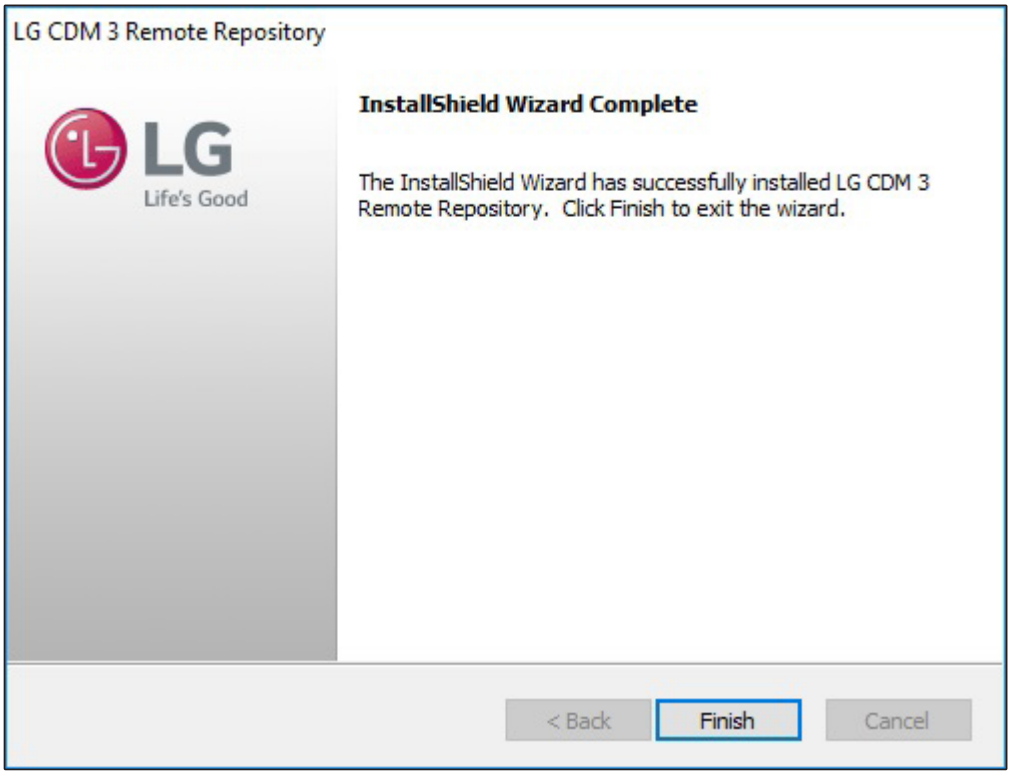


Installation stage



The installation time will vary depending on the performance of your PC, but it normally takes approximately 1-5 minutes.

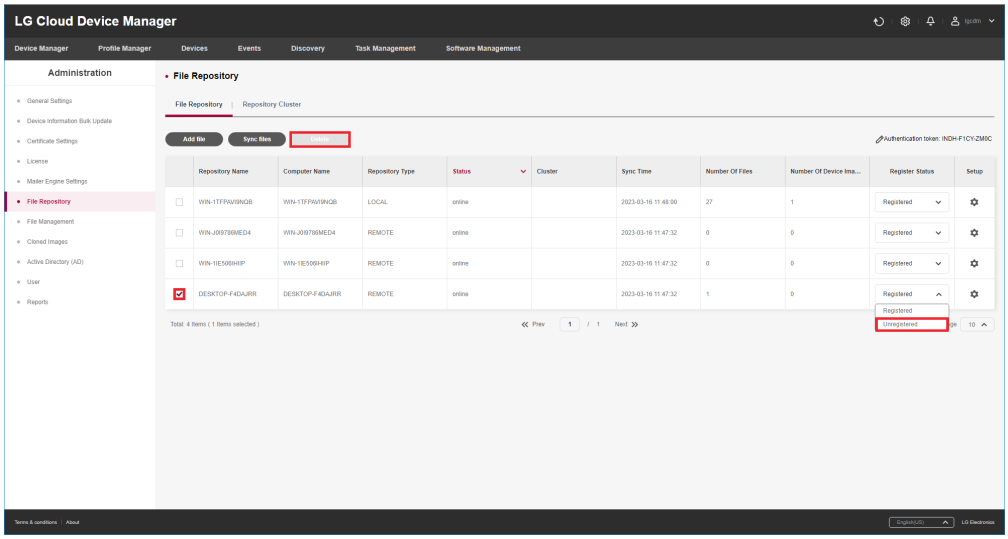
Complete


LG CDM 3 Remote Repository
LG
Life's Good
InstallShield Wizard Complete
The InstallShield Wizard has successfully installed LG CDM 3 Remote Repository. Click Finish to exit the wizard.
< Back
Finish
Cancel

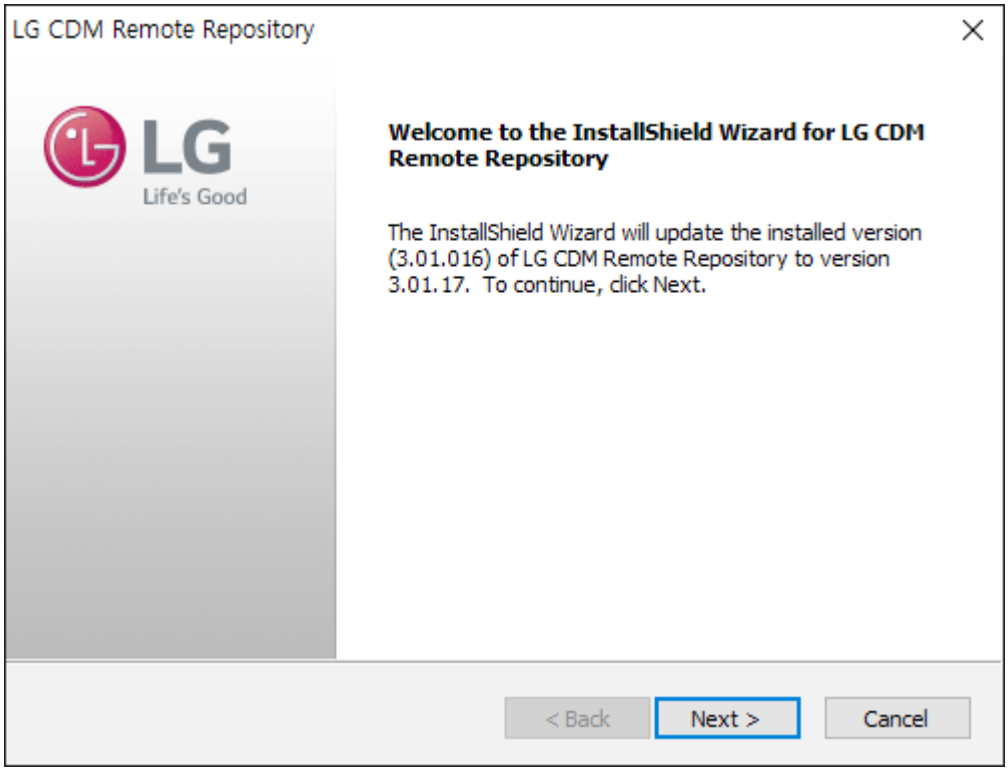
For LG CDM Remote Repository Update

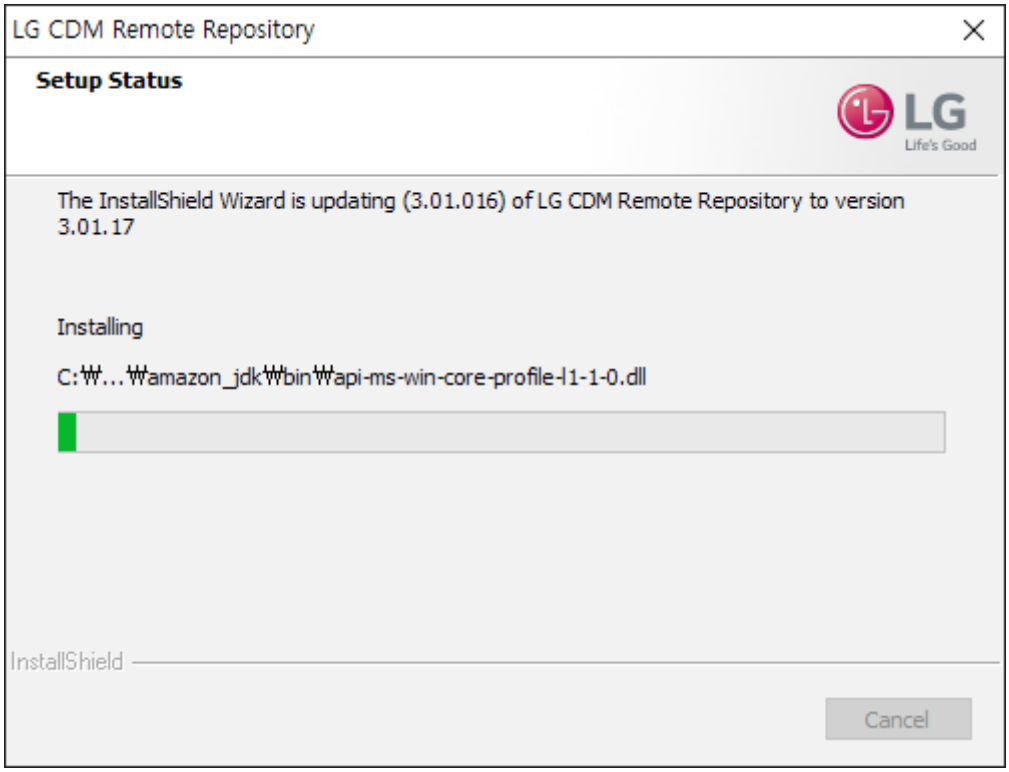
Similarly, it is possible to upgrade the Remote Repository in the same way as the CDM. It is not necessary to delete the old version from the server. Simply run the LG CDM 3.1 Remote Repository installer executable to keep the remote repository updated without losing data and files in the repository. To upgrade the Remote Repository, please follow the steps below:

1 Open the CDM console and navigate to [Administration] > [File Repository].
2 Select the target remote repository that you want to update, and first unregister and delete the repository from the CDM.

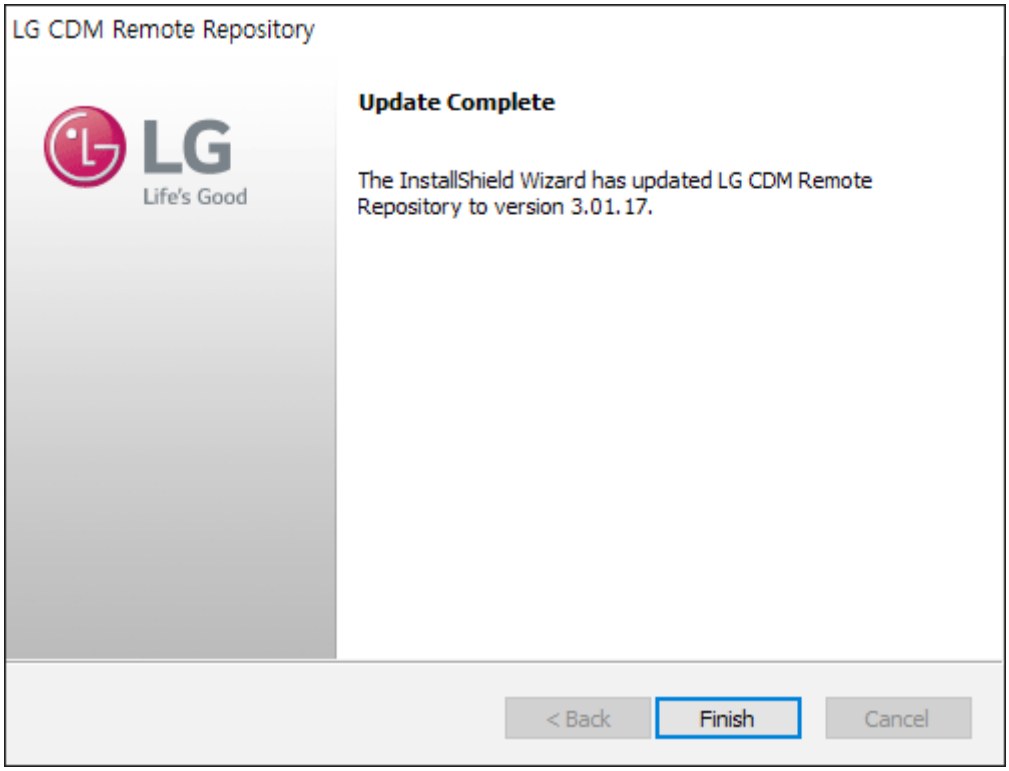


3 Access the remote repository server and run the new LG CDM Remote Repository installer executable. Do not delete the old version.
4 Click [Next] to proceed the update. The update will proceed automatically.





5 Once the update is complete, click [Finish] to complete the process.



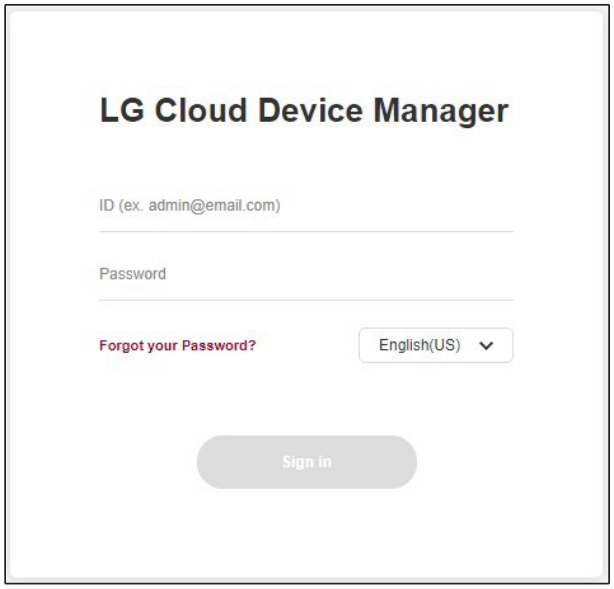
3. To start

Login

You must have a supported browser installed to sign in to the LG Cloud Device Manager console.
Please check the browser specifications of the system specifications to see information about the supported browser.
You can connect to LG CDM through the LG CDM program icon or by entering the URL below directly into your browser.
- URL: https://IP_or_FQDN/lgcdm

Login (password only)

1 Enter your account email and password. At this time, the email and password you enter cannot exceed 50 characters each.
2 Select the language to be used in LG CDM.
3 Click the [Login] button.



Login (password and one-time password)

Security can be enhanced through two-factor authentication, which uses both a password and a one-time password when logging in.

- Prerequisites
  - Log in with an administrator account
  - [Administration Settings] (⚙) > [Mailer Engine Settings] > [SMTP server configuration]
  - [Administration Settings] (⚙) > [General settings] > [Sign In Settings] > [Two-factor authentication]: Enable
  - Create a one-time password entry field in the login window when the two-factor authentication setting is complete.
- Login process

1. Enter your account email and password. At this time, the email and password you enter cannot exceed 50 characters each.
2. Click the [Request] button. When the Send Password window appears, click OK.
3. A one-time password for your account will be sent to your email.
4. Enter the one-time password and click the Login button.

Change Password

To change the password, select the account information in the upper right corner while logged in, and select [Change Password].

1 Enter the current password.
2 Enter the new password.
3 Select the [Change Password] button.

Sign Out

To sign out, select the account information in the upper right corner while logged in, and then select [Sign out].

[Forgot your Password?]

If you forgot your password, use this function to find it. To use this function, a valid SMTP server must be set.

1 On the sign-in screen, select [Forgot your Password?].
2 Enter the e-mail information to receive the e-mail with the URL information for resetting the password, and click the [OK] button.
3 Access with the URL information in the received e-mail via the browser.
4 Enter and save your new password.

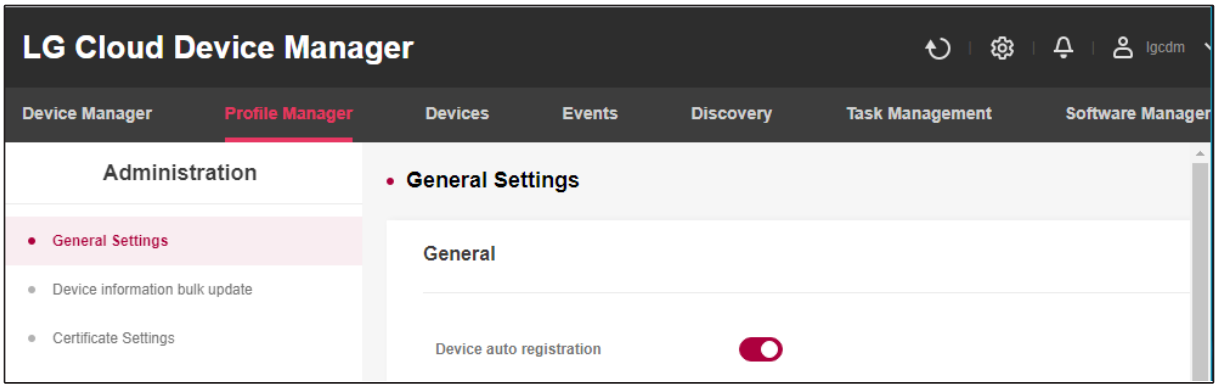
Change Language

On the login screen, you can change the language to Korean, English (United States), German, French, Spanish, Chinese, Japanese, Portuguese (Brazilian ABNT).

4. Register and Release the Device

Auto Registration

To use LG CDM, the Agent must be connected to the server.
To automatically register the LG Cloud Agent to LG CDM, you have to check whether the Device auto registration item of LG CDM is enabled.
You can check whether it is enabled in [Administration settings] (⚙) → [General settings] → [Device auto registration].



Automatic registration method through DNS/DHCP server

LG Cloud Agent can recognize the address of LG CDM using the information delivered by the DNS/DHCP server.

Setting up a DNS server for auto registration

Setting up the DNS option is as follows:

1 Open Server Manager in Windows Server.
2 Open DNS Settings in Tool.
3 Select DNS → DNS Server Host Name → Forward Lookup Zones → Target Domain →_tcp and right-click the mouse.
4 Select Other new record, select Resource record type as Service Location (SRV), and click Create Record.
5 Provide the following detailed information:
- Service: _lgcdm
- Protocol: _tcp
- Port number: 443
- Host offering this service: FQDN or IP Address of LG CDM Server
  Example: If the FQDN of the server where LG CDM is installed is cdm.lge.com, enter cdm.lge.com for “Host offering this service” ("." included).

6 When the setting is done, LG Cloud Agent will attempt to connect to the server while booting.

DHCP server setup for auto registration

The following settings are required to automatically register LG Cloud Agent using the DHCP Option:

How to create Option Tag

1 Open Server Manager in Windows Server.
2 Select Tools → DHCP.
3 Select IPv4 and right-click the mouse.
4 Select Set Predefined Options.
5 Select the DHCP Standard Option value from the Option class list.
6 Select Add to see the Option Type window. Enter the following information here and click OK to save.
- Name: LGCDM
- Data Type: String
- Code: 190

7 On the Predefined Options and Values screen, find the “LGCDM” item in the Option Name list and enter the value in the following format:
- LGCDM/[FQDN or IP Address of LG CDM Server]:443
- Example: If the FQDN of the server where LG CDM is installed is cdm.lge.com, enter LGCDM/cdm.lge.com:443.

8 Select the DHCP Scope to which the previously set option is applied.
9 After selecting the Configure option, activate the created option.

NOTE

• For the DHCP Option for automatic group registration, please refer to the following information:
- Name: lgcdm_token
- Data Type: String
- Code: 193

• Enter the token string assigned to the group in the LG CDM UI in the part for entering the string.

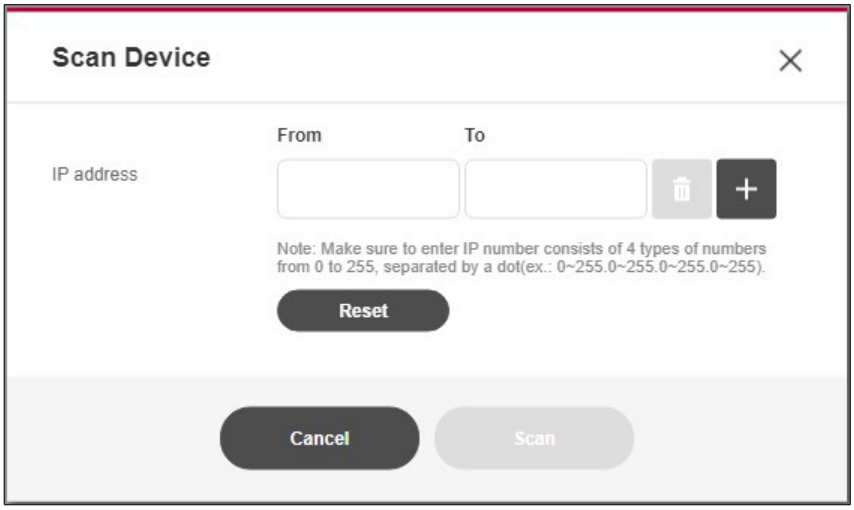
Device Search and Registration

LG CDM can search and register the LG Cloud Agent.

Device search

LG CDM can search the LG Cloud Agent. The administrator can enter the IP range of the device to search and proceed with the search.
Click [Discovery] on the top menu tab of the device to enter the LG Cloud Agent search menu.

1 Click the [Scan] button.
2 Enter the range of the IP band to search before searching.



NOTE

- You can additionally provide a range of IP bands to be searched and can search for up to 1000 IP addresses.
- Previous searched ip address will be displayed.

[Device registration]

The administrator can complete the registration procedure by checking the result of the search and selecting the device to register.

Delete the Scanned Device

You can delete the device from the device scan list. If you delete it, it works as follows.

- If the device is connected to the network, it will reappear in the device scan list after deleting the item
- If the device is not connected to the network, it will not reappear in the device scan list after deleting the item.

NOTE

- If you want to prevent the deleted device from appearing in the list again, it is recommended that you disconnect the network of device

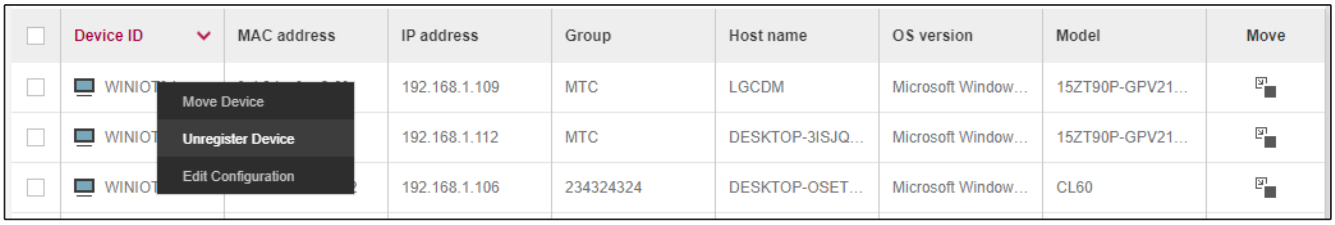
Manual Registration

If device registration cannot be performed through search in LG CDM, you can register in LG Cloud Agent.
To change the settings of LG Cloud Agent, click the LG Cloud Agent tray icon on the right bottom of the corresponding device screen to enter the Agent settings.

1 To set up the Agent, the administrator account information of the OS installed on LG Cloud Device is required. Enter the ID and password of the account that has the administrator privileges.
2 [Remote server IP/Name] Enter the FQDN or IP information of LG CDM.
3 Enter the port number of LG CDM in [Port No.]. (Default: 443)
4 If the Device [Auto Registration] option is set, and a group token is set for a specific group in LG CDM, you can have the device automatically assigned to the specific group by using the information.
5 To check the server settings, use the [Test Connection] button to check the settings.
6 To complete the server settings and register, use the [Save] button to register.

Unregister

LG CDM provides the following stages to unregister the device:
Right-click the device list of [Device Manager] or [Device], and select [Unregister Device]. Then, such device will be deleted from the [Device Manager] list, and it can be seen in the list of unregistered devices on the [Discovery] tab.



Delete the Device

[Device delete] means that the LG CDM no longer manages the deleted device. In this case, the device can be re-registered automatically by the DHCP/DNS setup.
If the device is deleted from the unregistered device item, it will operate as follows since it is no longer managed by LG CDM.

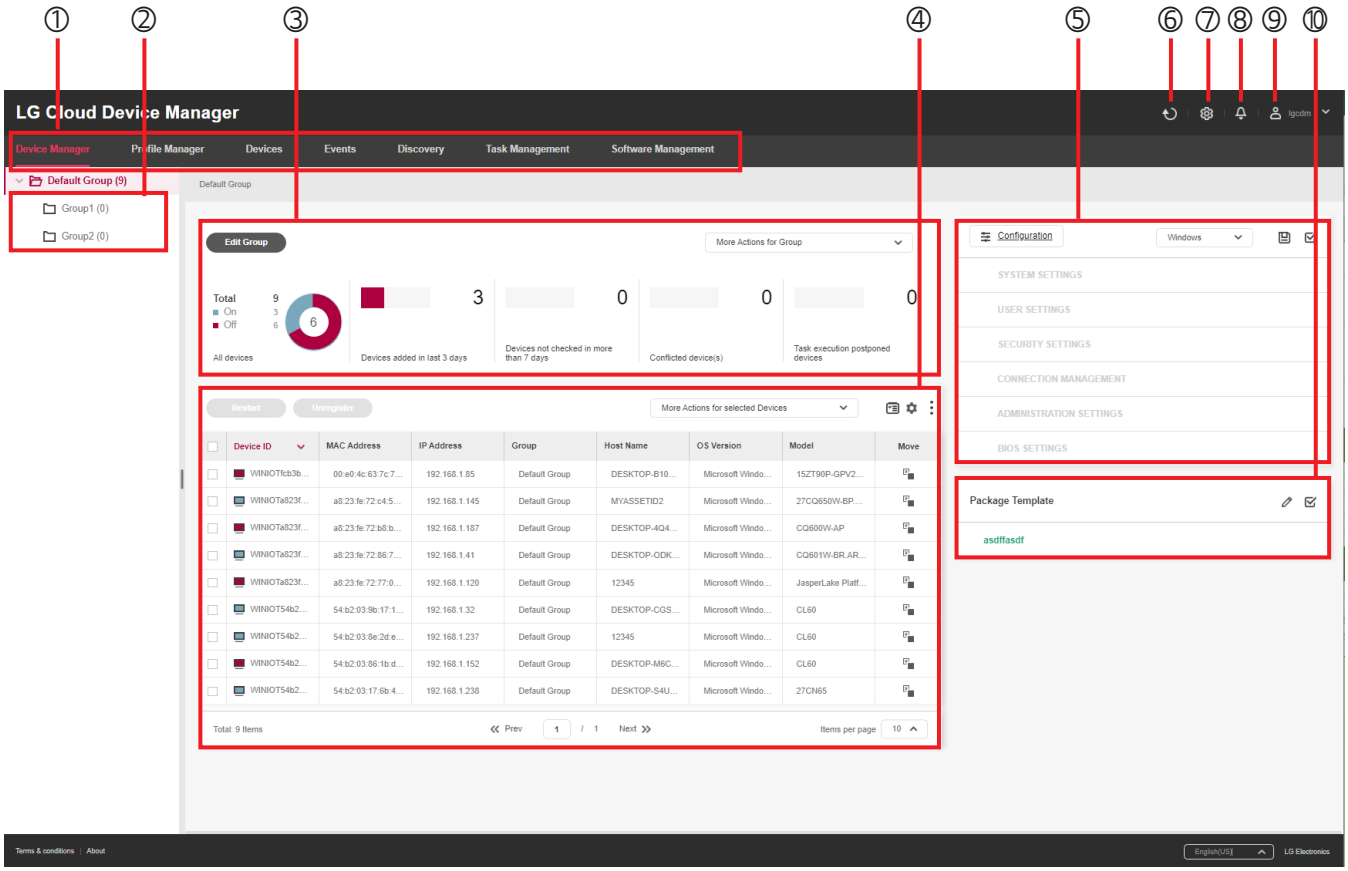
- If the auto registration option is on, and the network and device are connected, it will reappear in the Device Manager list.
- When the auto registration option is off, and the network and device are connected, it will reappear in the device scan list.

NOTE

- If the auto registration option is enabled, and you want to prevent the device from being re-registered, it is recommended that you do not delete it from the unregistered device list.

5. Device Management

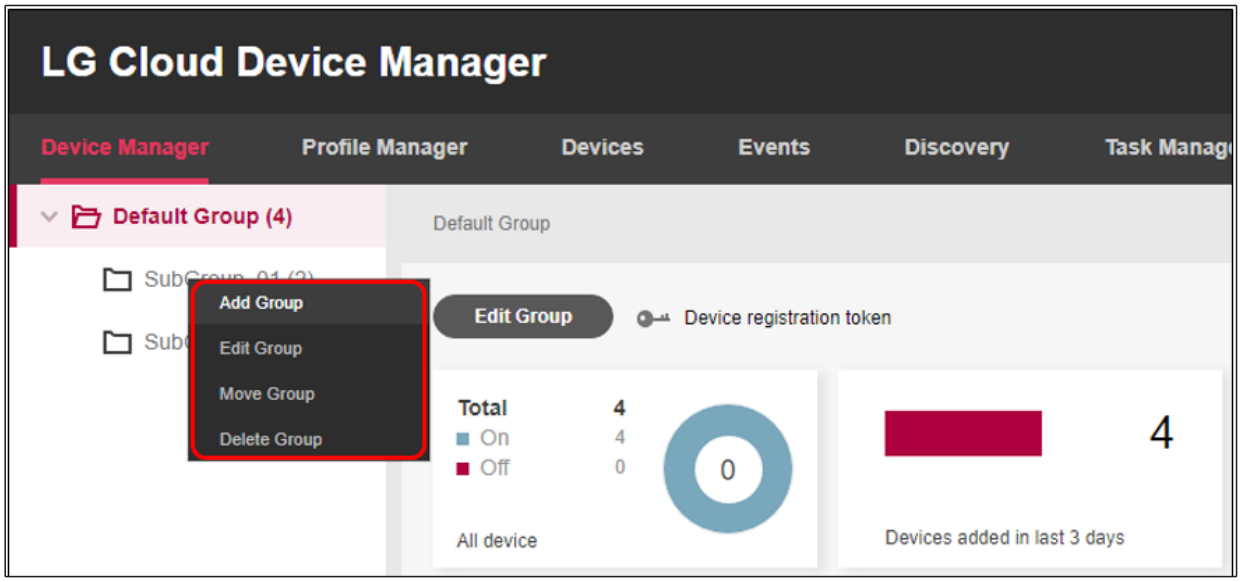
LG CDM menu configuration



1 Menu tab: Allows you to go to the menu of [Device Manager], [Profile Manager], [Device], [Events], [Discovery], [Task Management], and [Software management].
2 Group management tree: Allows you to create and manage groups for device management.
3 Dashboard: Allows you to see the overall status of the devices in the group.
4 Device list: Displays a list of devices belonging to the group.
5 Configuration: Allows you to set the properties of the device.
6 Refresh: Reload the device and group tree information.
7 Administration settings: Allows you to manage the settings of LG CDM.
8 Notification: Shows the notification items.
9 Account information: Shows the logged account and user privilege information.
10 Package Template: Allow you to set commands (package templates) to run devices in the group.

Group Management

You can create, change, delete, and move groups to manage devices.

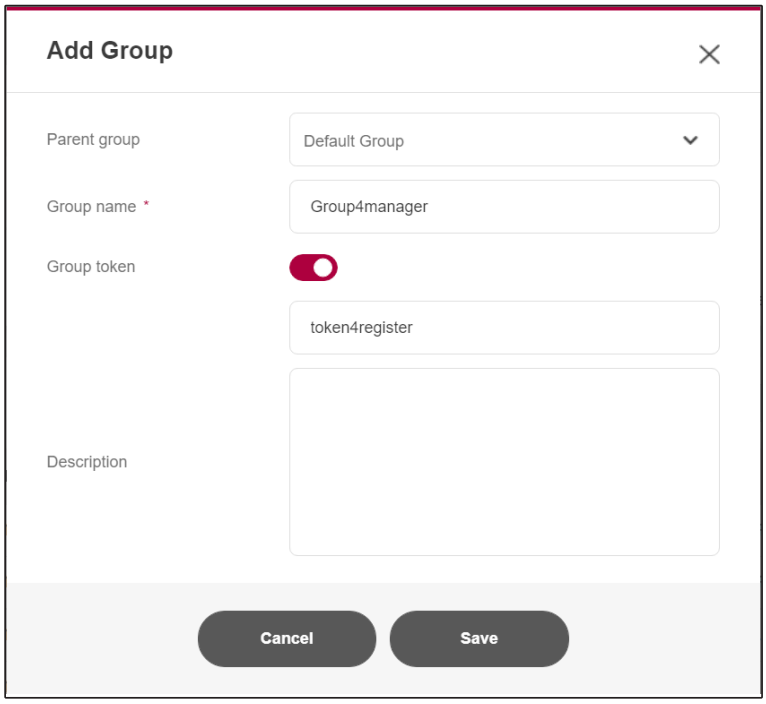


Create group

[Default Group] is provided initially, and you can create a subgroup of the group.
If you right-click on a group, it brings up a menu, and you can create a group via the [Add Group] menu.
You can continue to create subgroups up to level 10, including the Default Group.

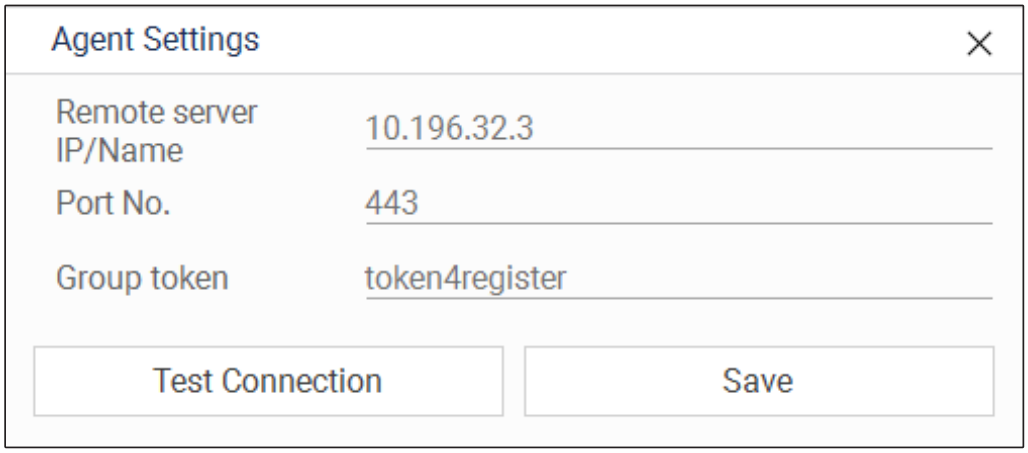
Group token

You can set [Group Token] when creating a group. [Group token] allows you to automatically move the device to be registered to the corresponding group.



You can use the [Group Token] created above by choosing one of the methods below.

1 How to enter directly into the agent group token of the device



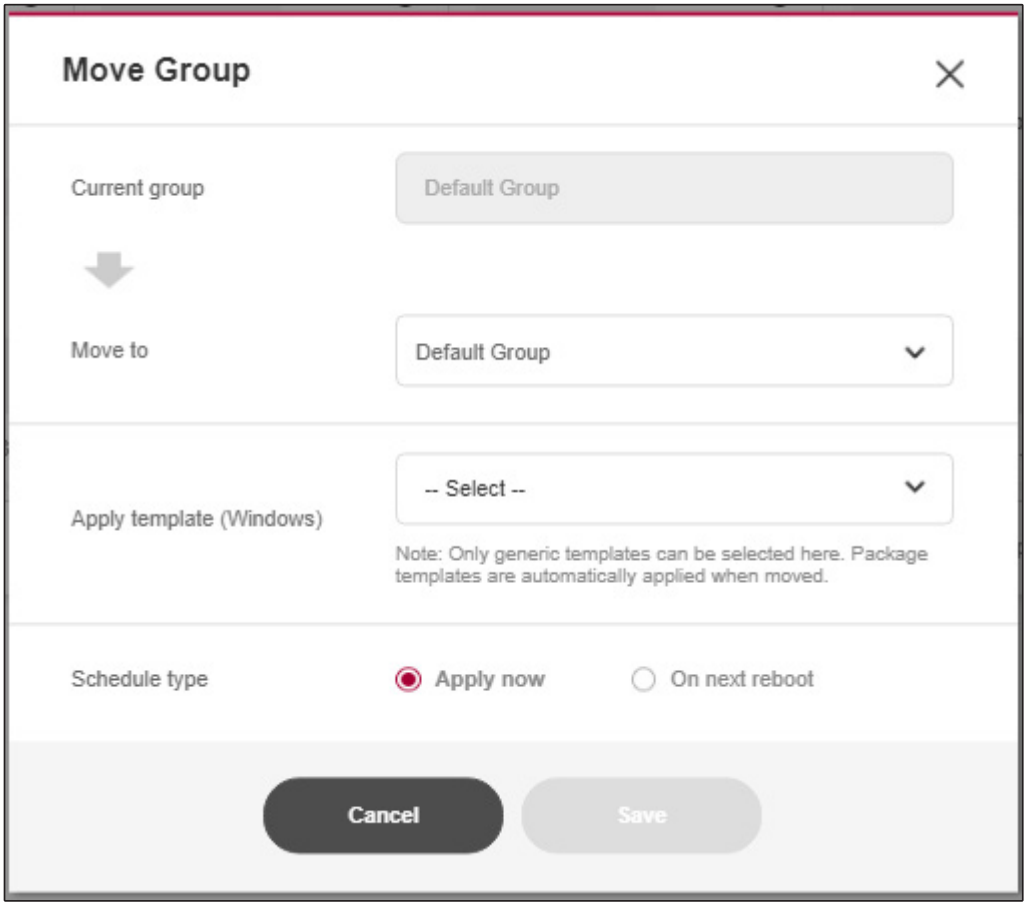
2 How to register with DHCP option
Name: lgcdm_token
Data Type: String
Code: 193
Replace “String” with the token string that you assigned to the group in the LG CDM UI.

Delete group

If you do not need a group, you can delete it.
Right-click on the group you want to delete to display a menu. Delete the group via the [Delete Group] menu.
If there is any device in the group you want to delete, you must select a group to which the device will move.
[Default Group] cannot be deleted.

Move group

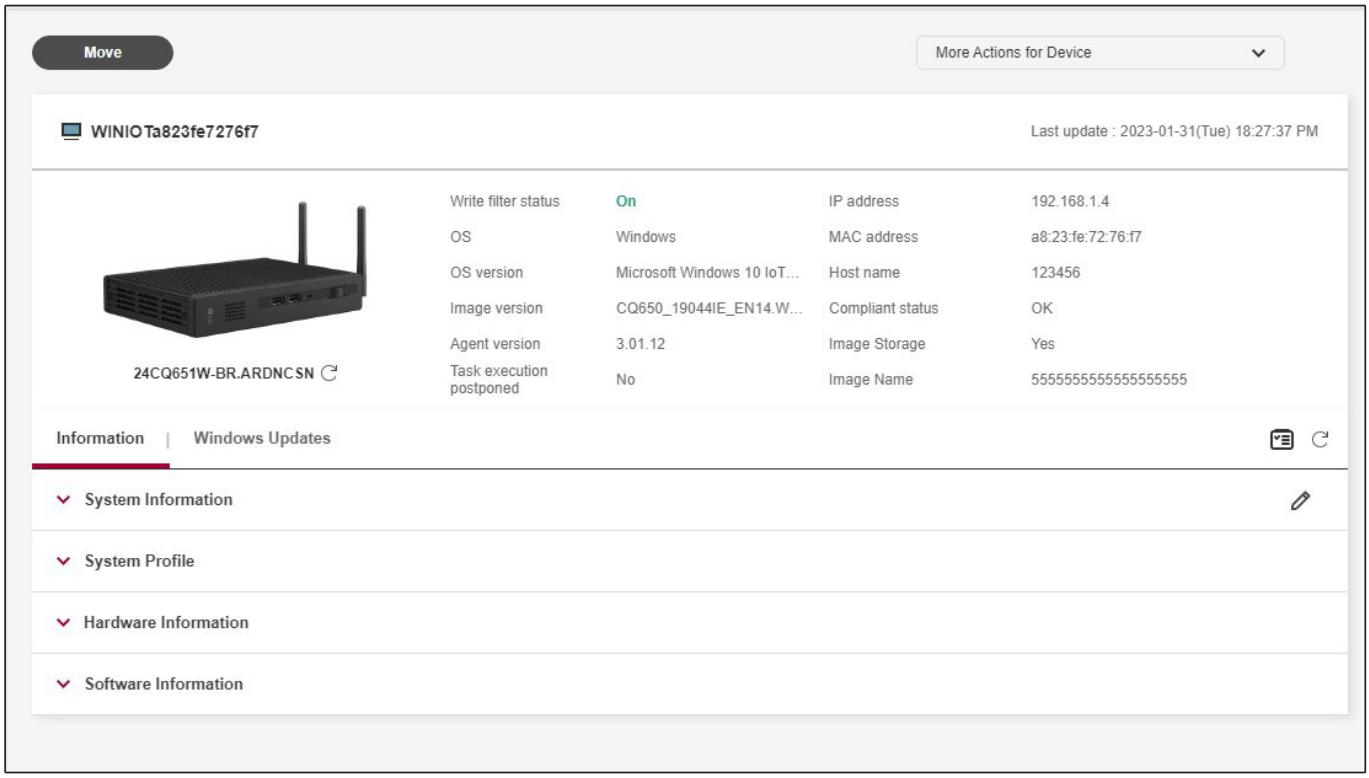
You can move a group to a subgroup of another group.
Right-click on the group you want to move to display a menu. Move the group via the [Move Group] menu.
[Default Group] cannot be moved.



[Apply template]: You can select the template when moving to a different group.
[Schedule Type]: You can choose when the template should be applied
- [Apply now]: Reboot the device in the moving group and apply the template immediately.
- [On next reboot]: Set boot schedule for the device and the template will be applied as scheduled.

[Device detail information]

If you click a device in the device list to enter this section, you can see the detailed information of the device.



[Information]

You can check [System Information], [System Profile], [Hardware Information], and [Software Information] for the device.

- [System Information]: You can enter the information required for device management, such as the place, department, asset number, description, etc.
- [System Profile]: You can check various settings applied to the device.
- [Hardware Information]: You can check the hardware-related details of the device.
- [Software Information]: You can check the details of the software, including its name and version, installed on the device.

[Windows Updates]

You can check the patch update information of the Windows device.
You can download the records of patch update by [Export to CSV].

[Go to Task Management]

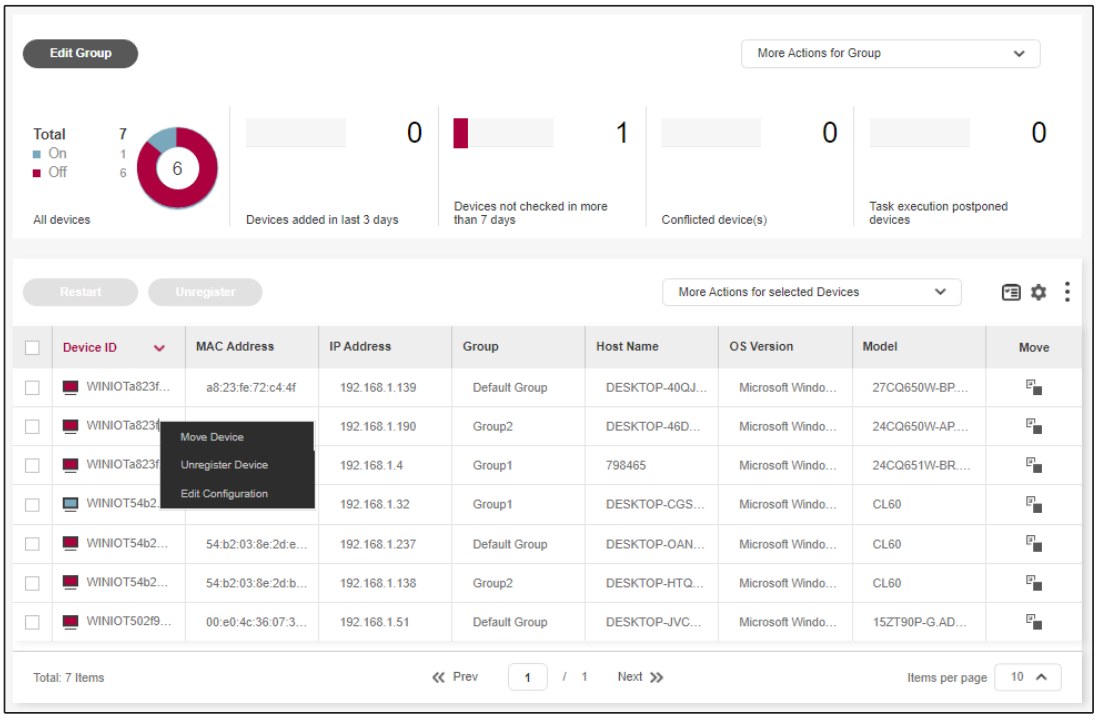
You can check the selected device's task progress status from [Task Management].

[Refresh]

You can check the device detail information through manual check-in.

Device Move

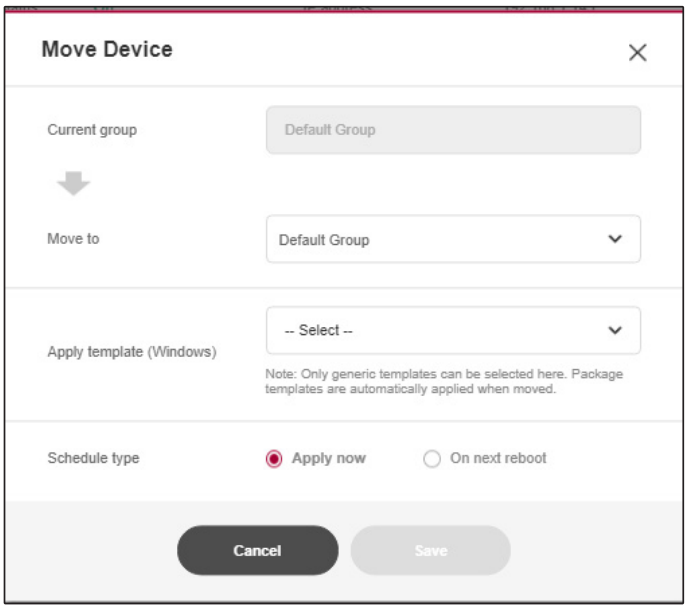
You can move the device to other groups for the effective management of devices.
Right-click on the device you want to move to display a menu. Move the device to the desired group via the [Move Device] menu. Or, you can move the group by using the [Move] icon on the far right of the device.



NOTE

- The maximum number of devices that can be managed by LG CDM is 10,000.
  You need a license key to manage more than 10,000.
  (For a license key, please contact your local sales representative.)

Move Device Options



[Apply template]: You can select the template when moving to a different group.
[Schedule type]: You can choose when the template should be applied
- [Apply now]: Reboot the device in the moving group and apply the template immediately.
- [On next reboot]: Set boot schedule for the device and the template will be applied as scheduled.

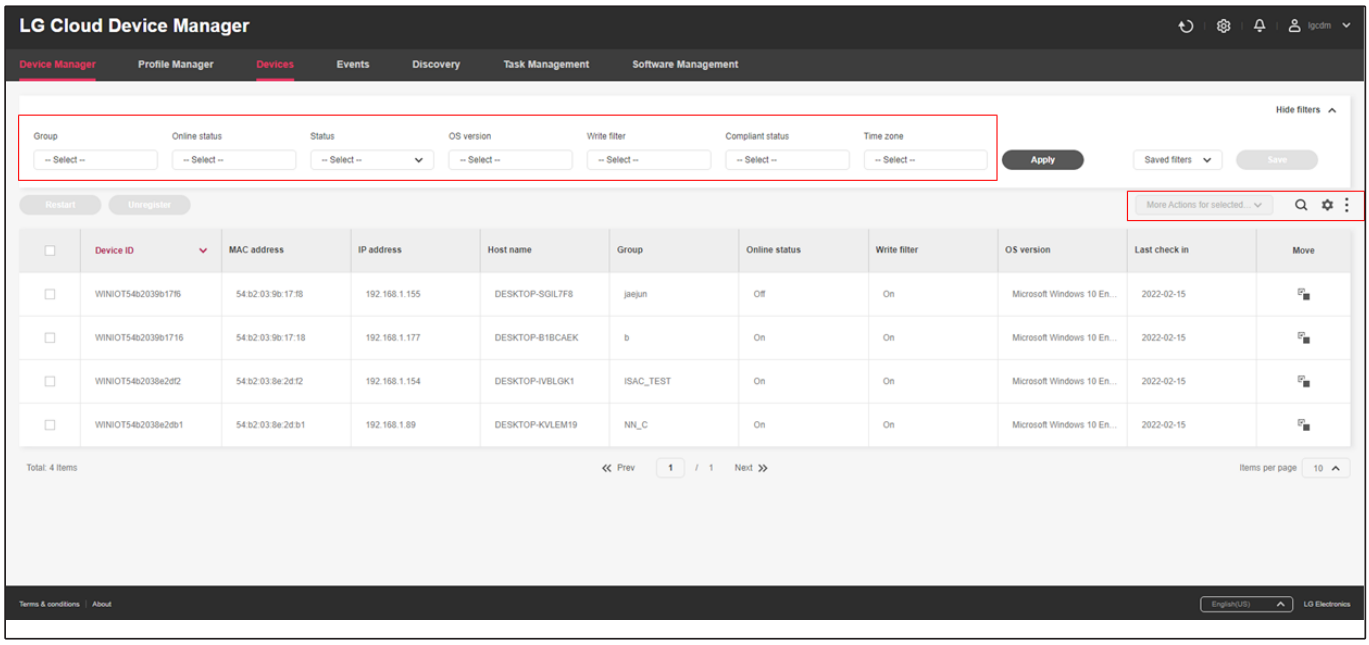
Device Menu

You can use filter/search to sort devices. You can add/delete device information to/from the table.

- The function to search via device filtering: By designating a specific value to a specific column in the device list, you can output only the result that matches the specified value in a list.
- Application of the control to the searched devices: You can apply the device control to one or multiple devices by selecting from the searched devices.

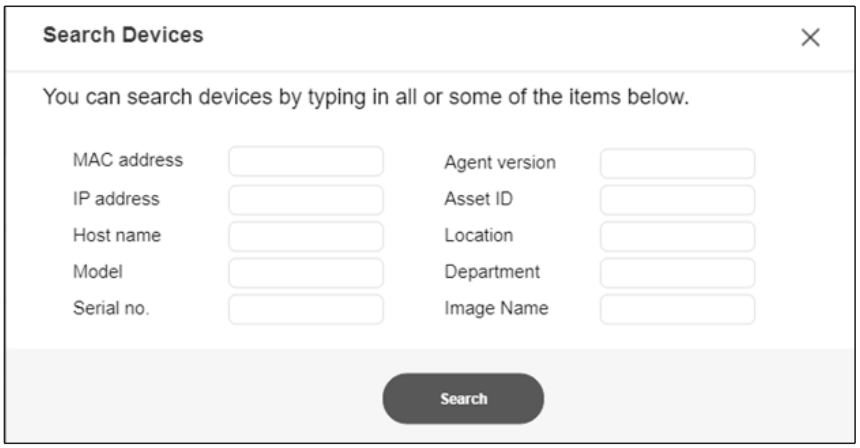
Filter value setting

After saving the filter setting value, you can load the saved setting value.



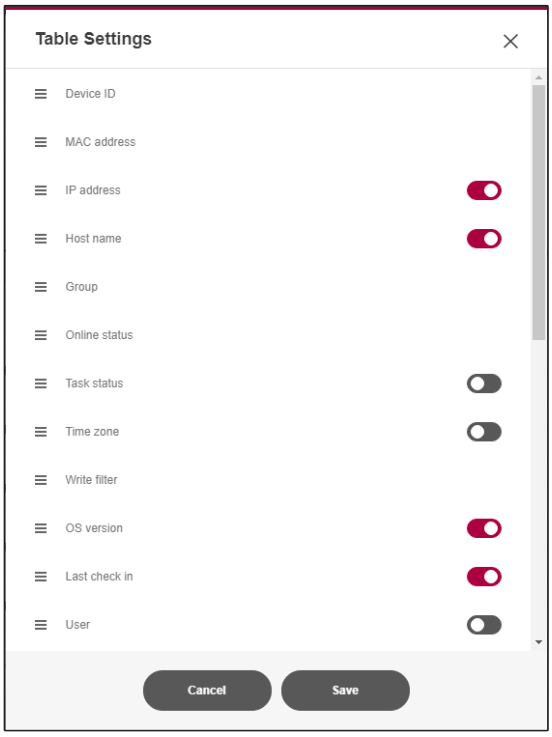
Search Devices

You can search for device properties by typing all or part of them.



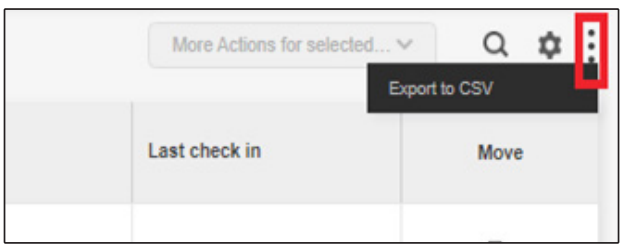
You can change the device information items shown in the table and change the order of the items.

- Entire information items: [Device ID], [MAC address], [IP address], [Host name], [Group], [Online status], [Task status], [Time zone], [OS version], [Write filter], [Last check in], [User], [Model], [Serial no.], [Agent version], [Manufacturer], [BIOS version], [Image version], [CPU Type], [Memory size], [SSD size], [Compliance], [Asset Id], [Location], [Department], [Description], [Image Name], [Task execution postponed]
- Always displayed items: [Device ID], [MAC address], [Group], [Online status], [Write filter]



NOTE

- The device list can be exported as a csv file.

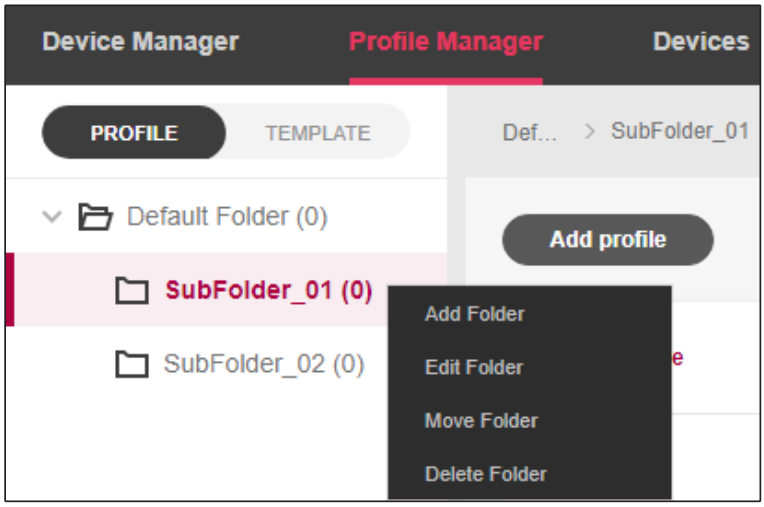


6. Profile Manager

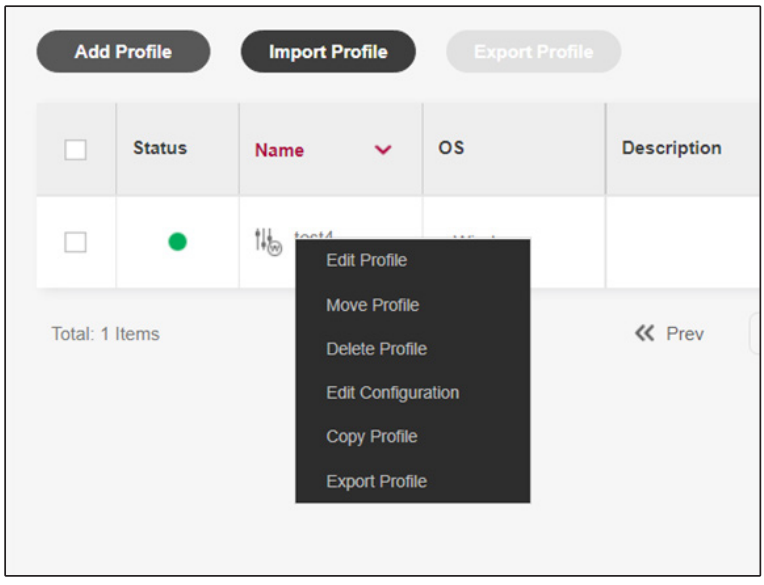
[Profile Manager] manages profiles and templates.
You can save and manage the changes in all or a part of the device settings, which can be changed via LG CDM. This is called a profile.
You can also save commands that are issued to the device in bundles. This is called a template, and it is useful when applying multiple commands to a group or device at once.
Templates are divided into general templates and package templates. Each of the two templates differs in how and when commands apply to devices.
Commands are executed when an administrator applies a generic template to a group of devices (or devices). Even if the device is moved to the device group afterward, the command is not executed. (1 time)
The administrator can select the device group to which the package template will be applied, and the command will be executed when the device is moved to the corresponding device group. (semi-permanent)

Profile Management

It provides the functions to add, edit, move, and delete folders for profile management. It also provides functions such as adding, editing, moving, and deleting profiles, editing preferences, and copying profiles.
These functions are performed through the right-click menu in the profile folder tree and the profile list.



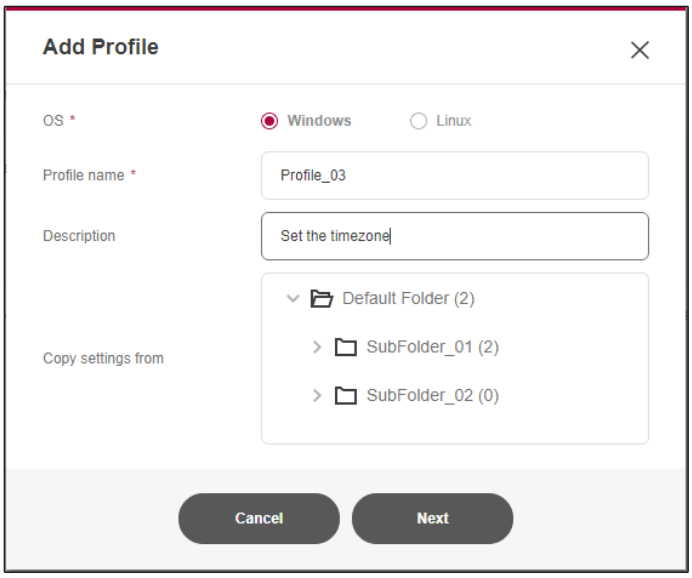
<Right-click menu for profile folder>



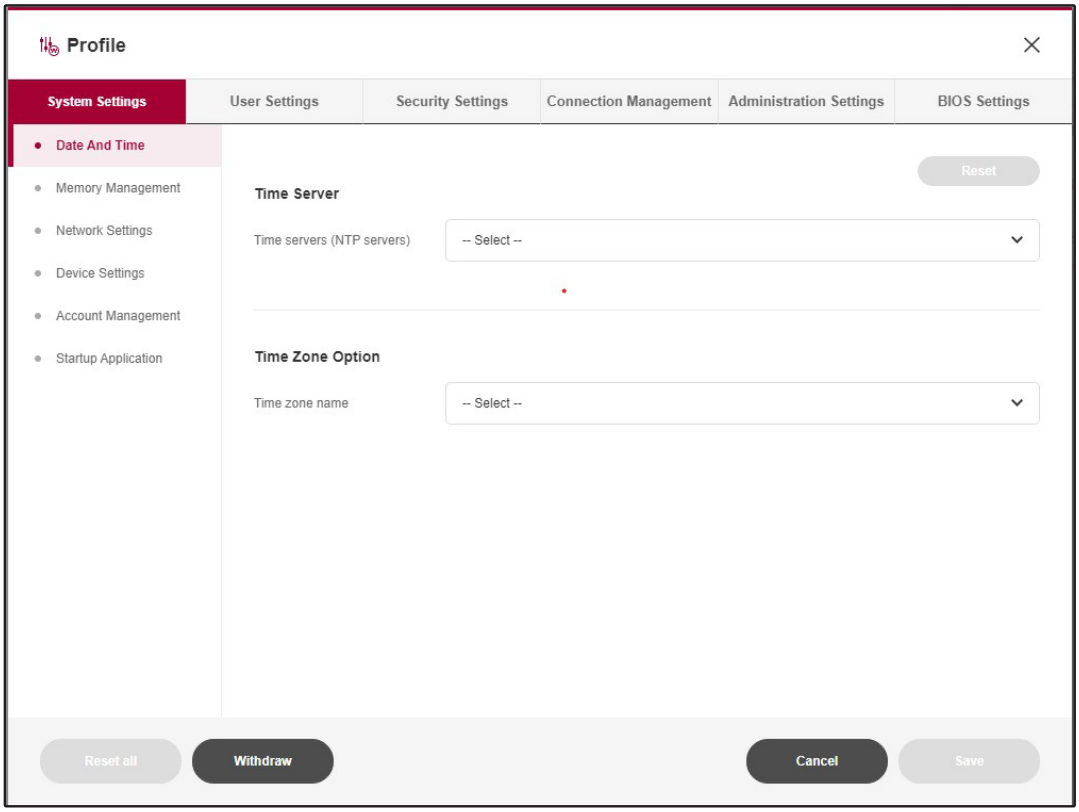
<Right-click menu for profile name>

Add Profile

1 When adding a profile, the following pop-up will appear. Select the [OS] of the profile to be created and enter [Profile name], [Description], etc. You can import the properties of the existing set profile.

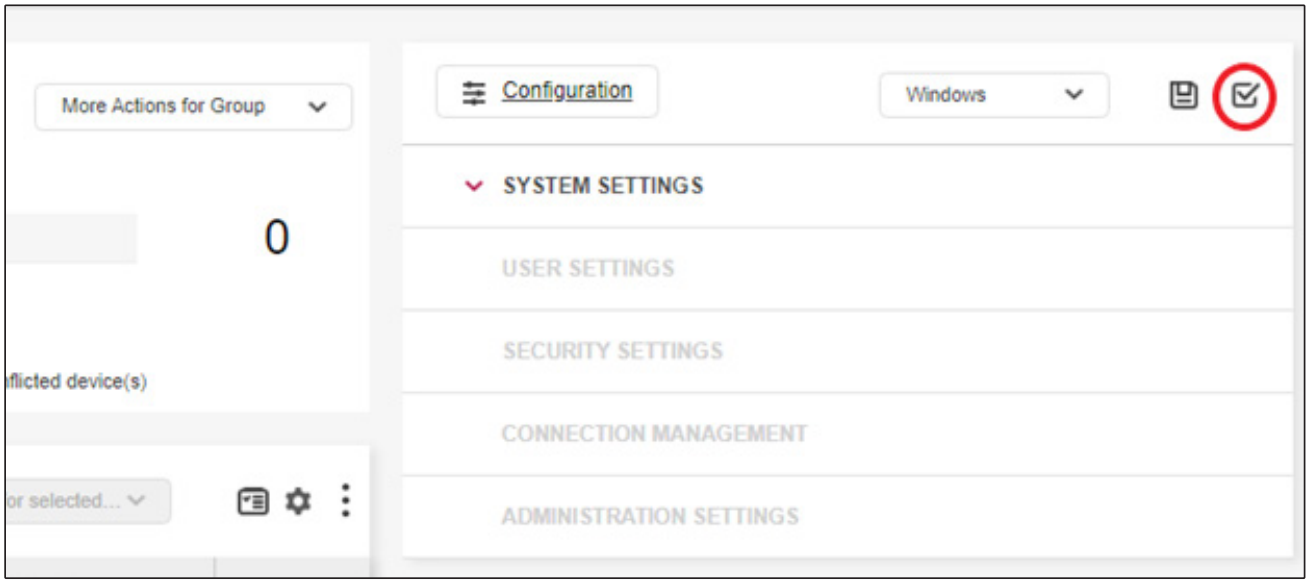


2 Click [Next] to display the following setup menu. After applying the required settings, click [Save].

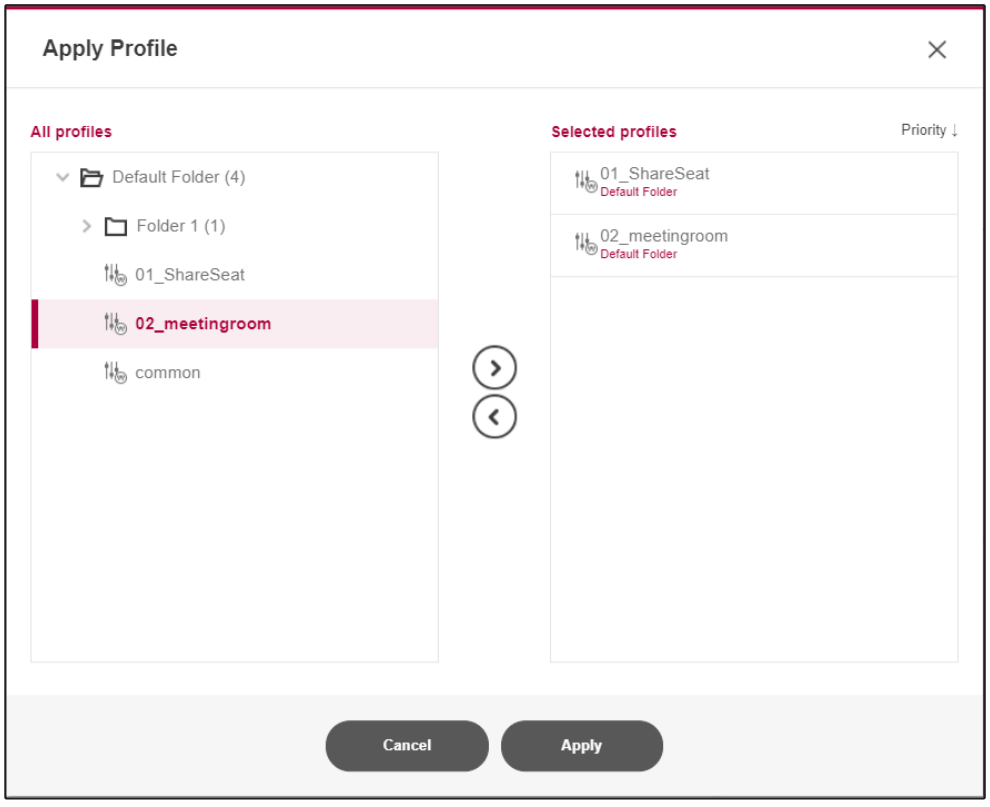


Apply Profile

You can apply a profile to device groups and devices. When applied to a group, the profile settings will be applied to all devices in the group.
You can apply the profile by clicking the ☑ icon of [Configuration] on the right side of the [Device Manager] screen.



At this time, if the same setting item is set for all profiles, the last setting value will be applied.

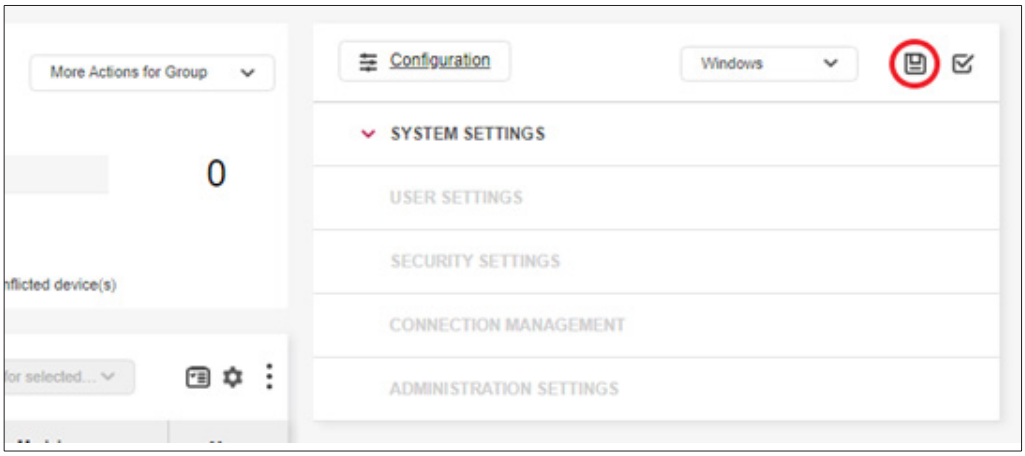


NOTE

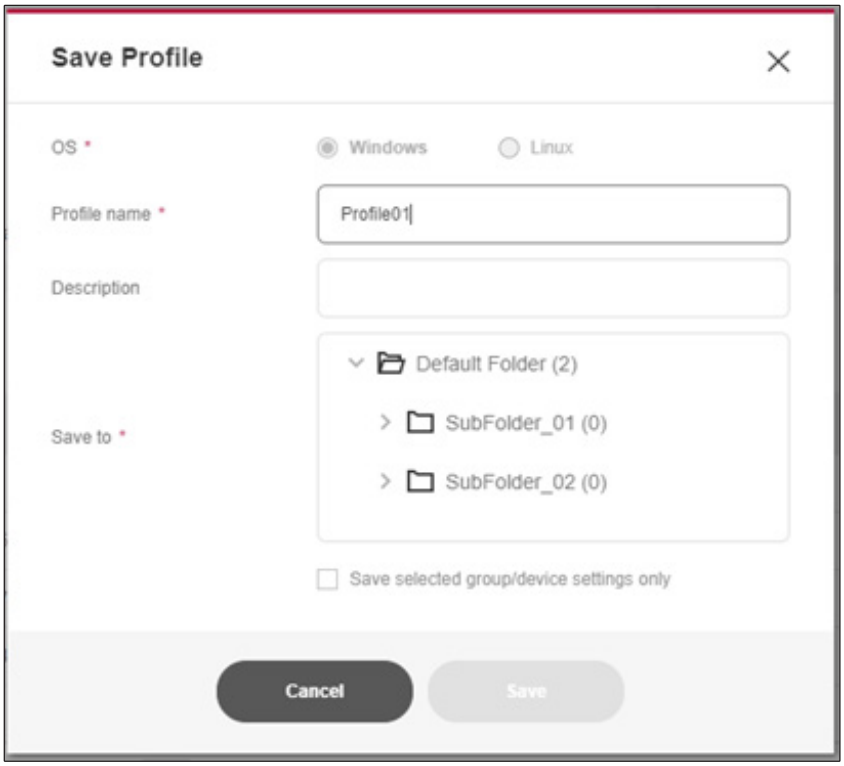
- The setting items are subject to change, and the details can be seen in the [Configuration] category.
- When subgroups are created, they inherit the setting properties of the parent group. If you change the parent group's setting, the change will also be applied to its subgroups.

Save Profile

You can save the device group and the settings applied to the device as profiles.
To save a profile, click on the icon under [Configuration], at the right side of the [Device Manager] screen.



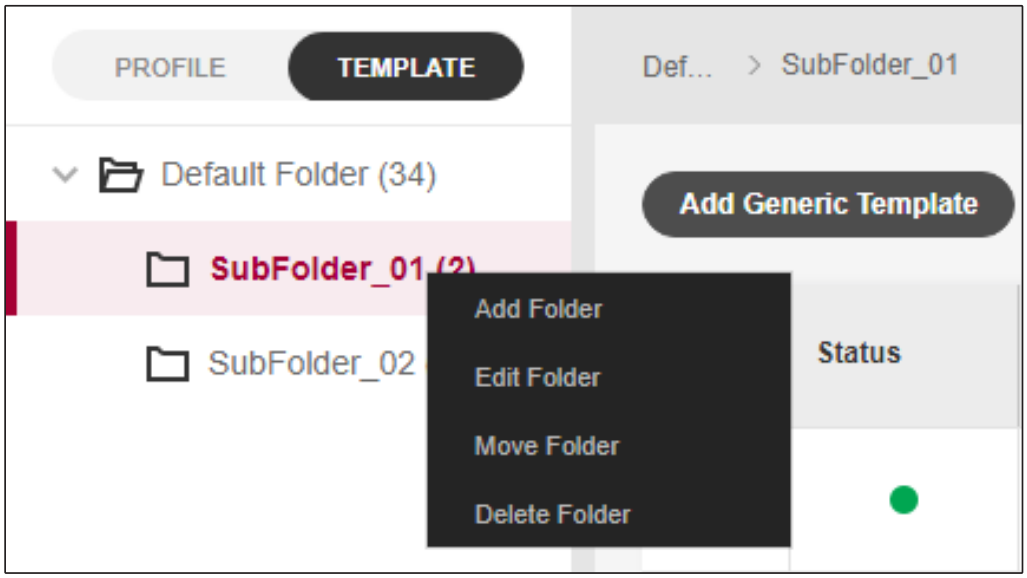
If the setting is also set in the parent group for one setting item, the lowest setting value is saved.



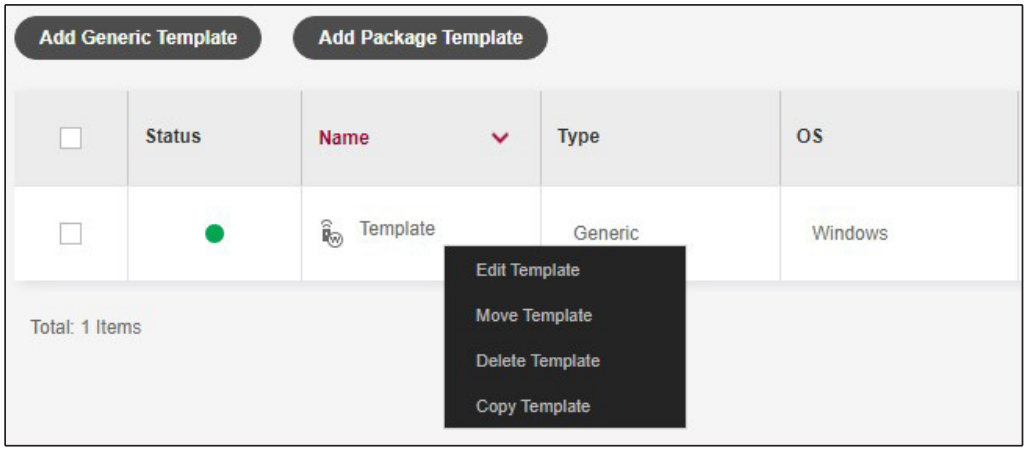
Selecting [Save selected group/device settings only] allows the new profile to retrieve the configurations from only the selected group and device. Not selecting such an option will have the new profile to have the configuration of selected group and its parent-groups if there is any.

Template Management

It provides the functions to add, edit, move, and delete folders for template management. It also provides functions such as adding, editing, moving, deleting, and copying templates.
These functions are performed through the right-click menu in the folder tree and template list of templates.



<Right-click menu for template folder>

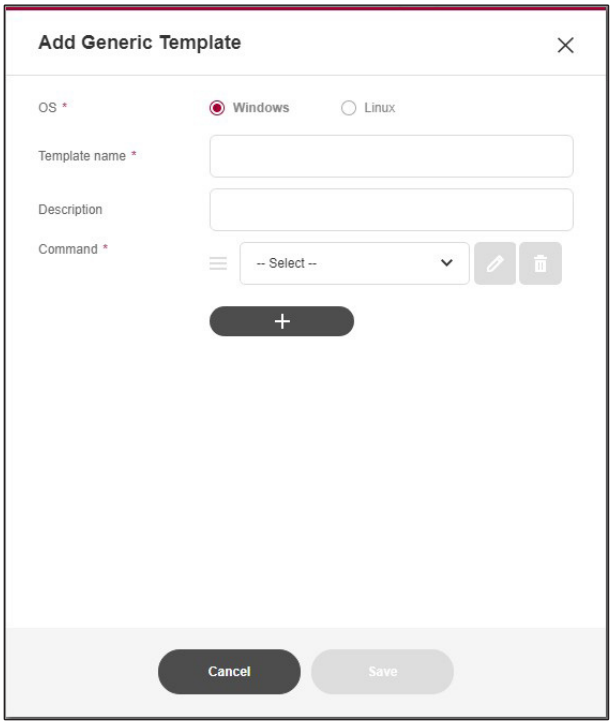


<Right-click menu for template file>

The template status indicates whether the template can be applied normally according to status of the file repository(registered/unregistered).

Add Generic Template

1 Click the [Add Generic Template] button to display the pop-up menu shown below.



2 Select the [OS] of the template to be created and fill in [Template name], [Description], etc. Click the '+' button to add remote control items.
- The remote control commands that can be added to the template are as follows:

Remote control item	Windows	Linux
[Lock Computer]	O	O
[Restart]	O	O
[Shutdown]	O	O
[Log Off]	O	O
[File Transfer]	O	O
[File Delete]	O	O
[SW & Patch Install]	O	O
[SW & Patch Uninstall]	O	O
[Deploy Image]	O	O
[Push Image]	O	X
[Apply Registry]	O	X
[Application Command]	O	O
[Update Agent]	O	O

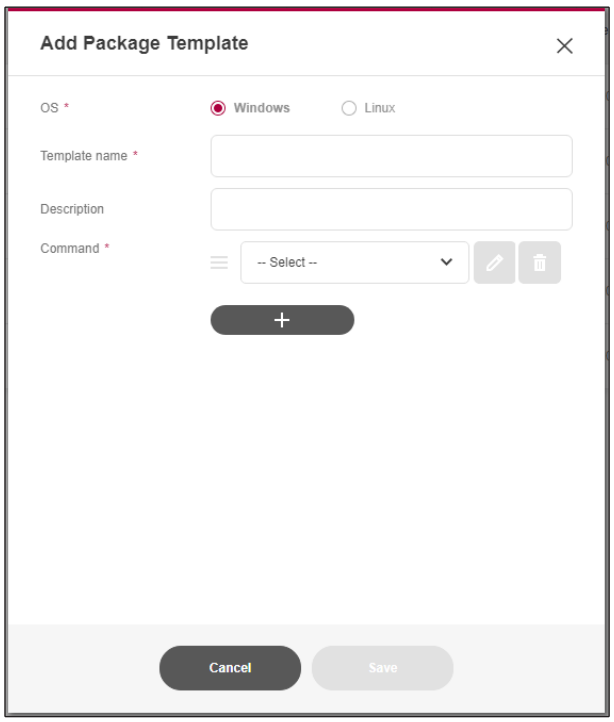
3 [File Transfer], [File Delete], [SW & Patch Install], [SW & Patch Uninstall], [Deploy Image], [Push Image], [Apply Registry], [Application Command], and [Update Agent] must be set in detail by editing. Click the [Save] button to save the template.

Apply Generic Template

1 After selecting a device group, perform [More functions (groups)] → [Apply template]
Or, after selecting a device, perform [More functions (selected device)] → [Apply template].
2 Select and apply a generic template on the [Apply Template] pop-up.

Add Package Template

1 Click the [Add Package Template] button to display the pop-up menu shown below.



2 Select the [OS] of the template to be created and fill in [Template name], [Description], etc. Click the '+' button to add remote control items.
- The remote control commands that can be added to the template are as follows:

Remote control item	Windows	Linux
[Restart]	O	O
[File Transfer]	O	O
[File Delete]	O	O
[SW & Patch Install]	O	O
[SW & Patch Uninstall]	O	O
[Apply Registry]	O	X
[Application command]	O	O
[Update Agent]	O	O

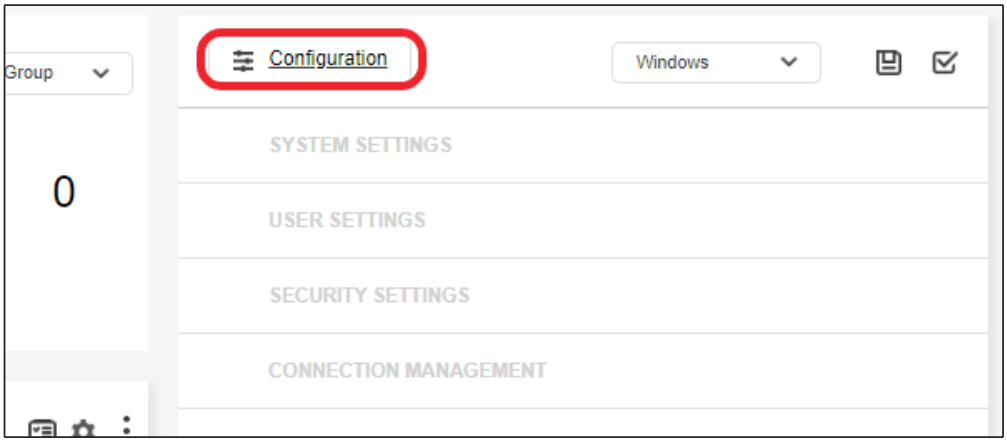
3 [File Transfer], [File Delete], [SW & patch install], [SW & Patch Uninstall], [Apply Registry], [Application Command], and [Update Agent] must be set in detail by editing. Click the [Save] button to save the template.

Apply Generic Template

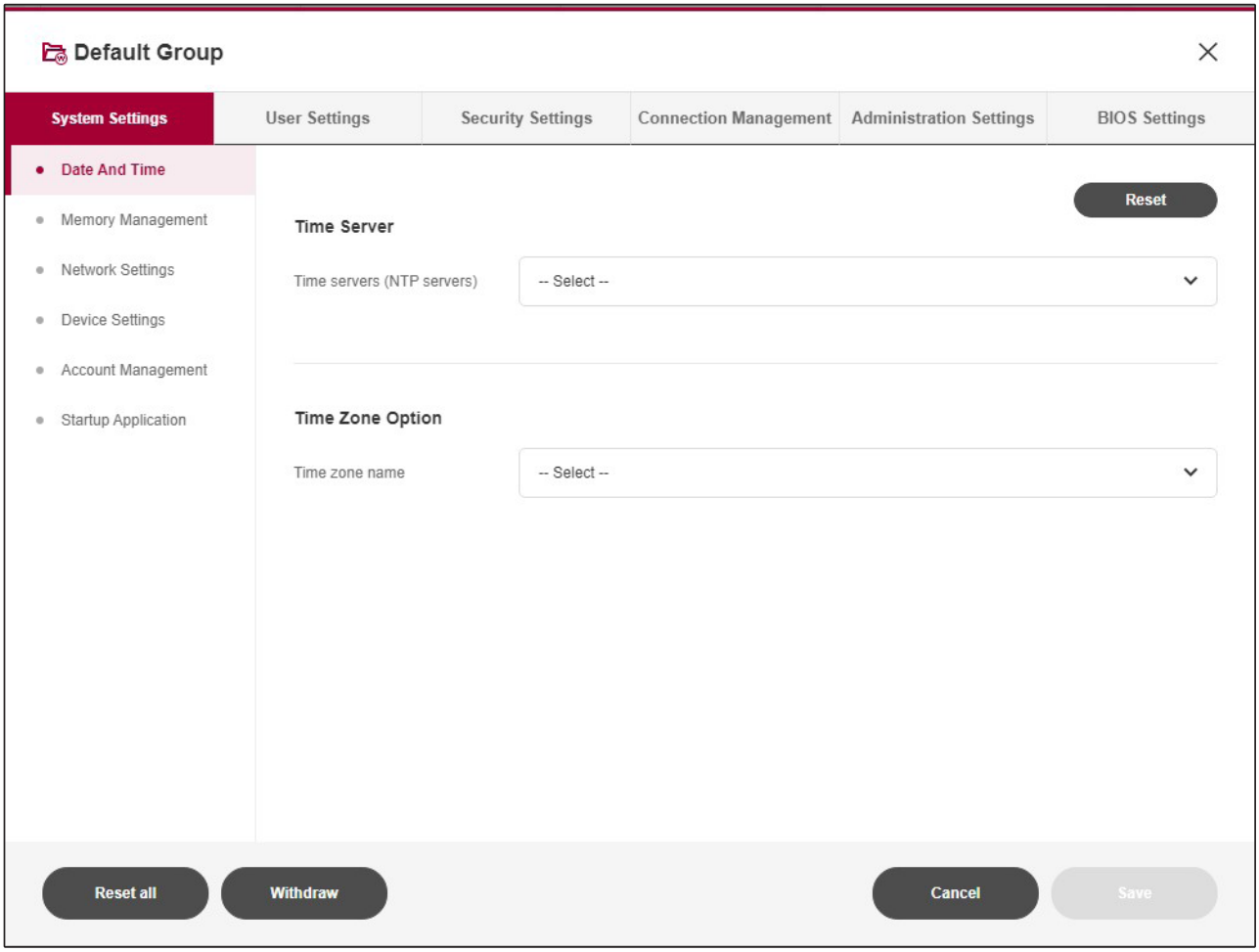
1 After selecting a device group, click [Edit Package Template].
2 Select and save the previously created package template from the [Edit Package Template List] pop-up.
3 The package template is automatically applied when the device is moved, or it can be applied manually through the [Apply Package Template] button.

7. Change Settings

You can configure a device group or settings for a device.
You can change the setting items by clicking on the word [Configuration] at the right side of the [Device Manager] screen.
After setting the item you want, click [Save].

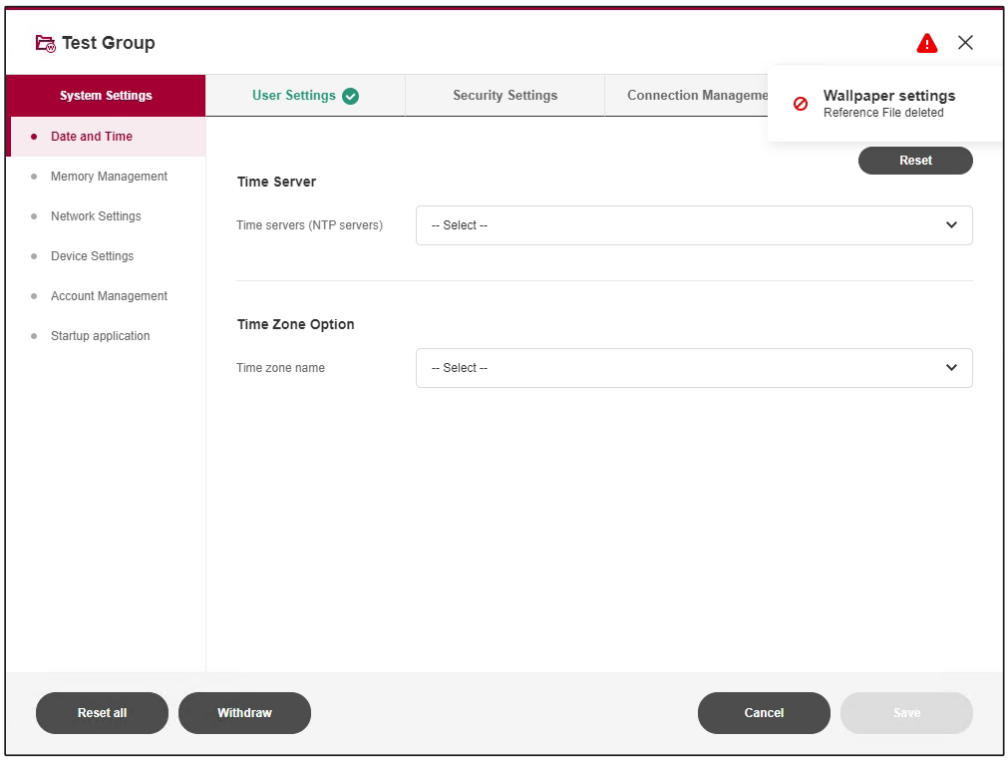


For group settings, select the OS and enter the settings window.



NOTE

- Configurations that use files in the repository display a warning notification when the repository is disconnected or files in the repository are deleted.



[System Settings]

Menu	Description
[Date and Time]	• You can set [Time Server] and [Time Zone Option].
[Memory Management]	• [Ram Disk Settings]: You can set [Drive letter] and [Drive size]. **NOTE** - Linux devices do not support the [Memory Management] menu.
[Network Settings]	• [General]: You can set the ON/OFF status of [Wi-Fi] and [Bluetooth]. • [Network Setup]: You can set [Ethernet], [Wireless], [Wireless(custom)]. - Check the "Appendix: How to use Wireless Profile Export Tool" for more details • [Computer Name]: You can set a computer name. For configuration of a group, you can only change the computer name based on the “rules.” Rule-based setting is possible with “MAC address,” “Serial no.,” or “Asset Id.” For “MAC address,” a 3-digit prefix can be added to the front; for “Serial no.,” a 2-digit prefix can be added to the front. **NOTE** - Even if the [Reset] button is pressed, the current setting value is retained instead of the initial value of the device. • [Domain]: Domain/Workgroup settings
[Device Settings]	• [Display]: Set Position, [Resolution], [Orientation], [Scale], [Main display] for multiple displays. • [Keyboard]: Set [Keyboard layout], [Repeat delay], [Repeat rate]. • [Language]: You can change System Language of the group or individual devices. - For System Language, you can choose from 8 languages: German, American English, European Spanish, French, Japanese, Korean, Portuguese (Brazil), Chinese. **NOTE** - To use this feature, the devices must have Language Pack Installation and Setting options enabled on its LG Cloud Panel. If the installed Language Pack is not supported by LG CDM, this task will fail. • [Mouse]: Set [Double click speed], [Pointer speed], [Left-hand configuration], [Show location of pointer (Ctrl)]. • [Audio]: Set [Audio mute], [Audio volume], [Microphone mute], [Microphone volume]. • [USB Devices Restriction]: Set enable/disable of [Mass storage], [Webcam]. • [Power Settings]: Set the device's power settings (balance/power saving/high performance). • [Power Settings On Battery]: Configure the battery mode settings for activating power saving mode and the time until the screen turns off. • [Power Settings When Plugged In]: Configure the power settings when plugged in for switching the device to power saving mode and the time until the screen turns off.
[Account Management]	• [Admin Account Management]: You can change the Admin password. • [User Account Management]: You can set the new password or disable the password for user. • [Log-In Options]: If you can set the [Auto-log in] function of the admin/user, you can set the [Reset password when log-in] function for the user. • [Account Password Policy]: You can set the minimum password length and requirements for complexity. **NOTE** - For Linux devices, [Account Password Policy] is not supported.
[Startup application]	• [Application path]: You can set the path of the application to start. • [Application name]: You can set the name of application. • [Enabled]: You can set [Enable] or [Disabled].

[User Settings]

Menu	Description
[Screen Saver Settings]	• You can set [Screen saver], [Wait] and [On resume, password protected]. **NOTE** • For Linux devices, [Screen saver settings] is not supported.
[Taskbar Properties]	• You can set [Lock the taskbar], [Auto hide taskbar], [Use small taskbar buttons], and [Combine taskbar buttons].
[Wallpaper Settings]	• You can set [File] and [Picture position].

[Security Settings]

Menu	Description
[Software Restriction]	• [Installation & Uninstallation Restriction]: You can set [Disable installation & uninstallation] or [Enable]. • [Application Restriction]: You can set to enable/disable by providing the [Software/ Application name]. **NOTE** • You must log off to change the [Software Restriction] settings. • The [Installation & Uninstallation Restriction] function is applied only to the application that has been installed by Application Windows Installer. • For Linux devices, [Application Restriction] is not supported.
[UWF(Unified Write Filter)]	• Windows only - [UWF]: You can set [Write Filter Settings] and [Cache Size Setting]. - [Write Filter Setting]: You can select Enable or Disable the use of the filter - [Cache Size Setting]: Set the cache to RAM or Disk. When [RAM] is selected, the cache size can be set up to 50 %. When [Disk] is selected, the cache size can be set from a minimum of 1 GB to a maximum of 10 GB. - [File/Folder Exclusion]: You can add or delete files or folders that you do not want to manage with Filter. - [Registry Exclusion]: You can add or delete registries that you do not want to manage with Filter.
[Network]	• [Firewall]: You can add or delete a firewall. • [Proxy Settings]: You can set the automatic/manual detection settings of the proxy.
[Accessibility]	• Windows only - [Hotkey Filter]: [Ctrl+Alt+Delete], [Task manager (Shift+Ctrl+Esc)], [Lock computer (Windows+L)] can be set. - [IE Accessibility]: [Address bar], [New Window (Ctrl+N)], [Menu bar (Alt)], [Developer Tools (F12)] can be set. - [Access Center]: You can set [Ease of access button in log-in] and [Keyboard shortcuts for accessibility]. **NOTE** • [Keyboard shortcuts for accessibility] include the shortcut keys for 'Left Alt+LeftShift+PrintScreen' (high contrast shortcut), 'Shift*5' (fixed key), 'Right Shift click for 8 seconds (filter key), 'Windows+'+'' (magnifying glass) and 'Windows+Ctrl+Enter' (Narrator).
[Deploy Certificate]	• Windows only - [Deploy Certificate]: You can set the certificate.
[VNC Settings]	• Windows only [Password Settings] - [Default Password]: Change the password for the default VNC connection. - [View only password]: Set the password for the View VNC connection. [Direct Connection Settings] - [Allow Connection]: Enable/disable VNC connection. - [Port no.]: Change the port number to use when allowing VNC to connect. • Linux only - [Connection type]: You can select [View Only] and [Allow All]. - [Password]: Set the password for the selected item. - [Port No.]: Set the VNC's port number.
[RDS Settings]	• Windows only - [Remote Desktop Services]: Enable/disable the Remote Desktop Services on the device.

[Connection Management]

You can set the connection type.

Menu	Description
[Citrix StoreFront]	• Create up to 10 Citrix StoreFront shortcuts on the desktop. • Required input: You can set [Connection name] and [Store URL]. • Optional input: You can set [Icon] and [Auto start].
[VMware View Connection]	• Create up to 10 VMware View Connection shortcuts on the desktop. • Required input: You can set [Connection name] and [Server URL]. • Optional input: You can set [Icon], [User name], [Password], [Domain], [Desktop name], [Desktop Protocol], and [Auto start].
[RDP]	• Create up to 10 Connect to Remote Desktop shortcuts on the desktop. • Required input: You can set [Connection name] and [IP/Host name]. • Optional input: You can set [Icon] and [Auto start]. • You can change the detailed options after adding a connection. - You can set [Regular], [Display], [Local resources], [Experience], and [Advanced].
[Websites]	• Create up to 10 website shortcuts on the desktop. • Required input: You can set [Connection name], [URL], and [Web Browser]. • Optional input: You can set [Icon], [Full screen], [Auto start].
[Application]	• Create up to 10 application shortcuts on the desktop. • Required input: You can set [Connection name] and [Path]. • Optional input: You can set [Icon] and [Auto start].
[Smart Start Settings]	• [Smart Start mode]: Set whether to operate the kiosk of the device. • [Use a background image], [Select image file]: You can use an image file uploaded to the repository as a background image. • [Smart Start configuration file]: You can select the kiosk detailed settings file uploaded to the repository. • [Smart Start Preview]: You can preview the details of the selected Smart Start configuration file.

[Administration Settings]

To use the [Administration Settings], you must enter the license key.

Menu	Description
[Bandwidth Control]	• [Bandwidth control]: You can adjust the network bandwidth (maximum file transfer speed) between your device and file repository. • [Bandwidth limit]: 100 KB/s, 200 KB/s, 500 KB/s, 1 MB/s, custom
[Postpone Task Execution]	• [Allow postpone]: Allows the user to postpone the task execution that causes a reboot of the device. • [Postpone time]: 10 minutes, 20 minutes 30 minutes, 60 minutes, 90 minutes, 120 minutes, 180 minutes, 240 minutes

[BIOS Settings]

To use the [BIOS Settings], you must enter the license key.
Some devices do not support [Advanced Settings] or [User password].

Menu	Description
[Advanced Settings]	• [WLAN]: You can set whether to use the wireless LAN of the device. • [Bluetooth]: You can set whether to use the device's Bluetooth. • [External USB Port]: You can set whether to allow/block the external USB port of the device. • [Micro SD]: You can set whether to allow/block the micro SD port of the device. ※ Laptop products only. • [Webcam]: You can set whether to allow/block the device's built-in webcam. ※ Only for built-in webcam products. • [USB Boot]: You can set whether to boot the device from an external USB drive.
[Security]	• [Supervisor Password]: You can set the BIOS administration password. • [User Password]: You can set the BIOS user password. • [Password on boot]: You can set to enter the password when booting the device.

8. Remote Control

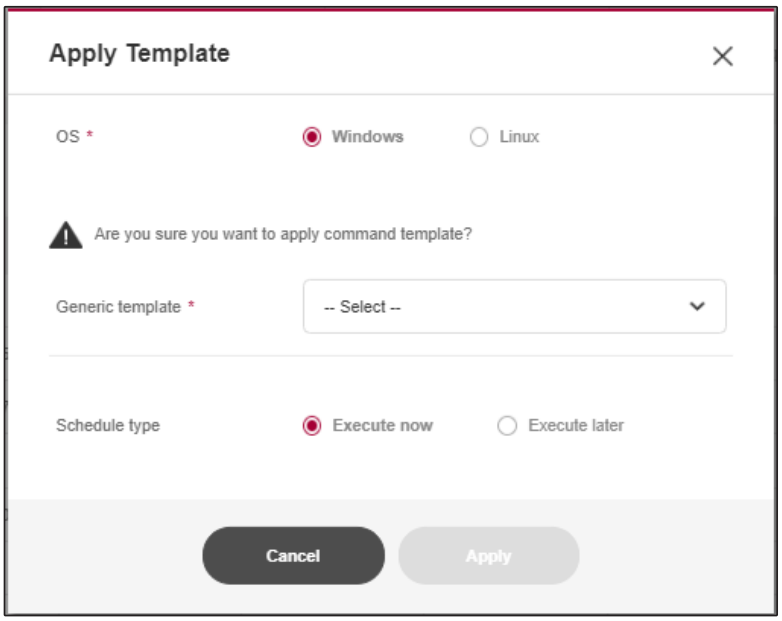
LG CDM provides the remote control function for the device.

- There are differences in the available functions when controlling the group or individual devices. The functions available to control groups or individual devices are as follows:

Control function	Group	Individual device (Windows)	Individual device (Linux)
[Apply Template]	O	O	O
[Send Message]	O	O	O
[Lock Computer]	O	O	O
[Restart]	O	O	O
[Shutdown]	O	O	O
[Log Off]	O	O	O
[Wake On LAN]	O	O	O
[File Transfer]	O	O	O
[File Delete]	O	O	O
[Import File]	X	O	O
[SW & Patch Install]	O	O	O
[SW & Patch Uninstall]	O	O	O
[Clone Image]	X	O	O
[Deploy Image]	O	O	O
[Push Image]	O	O	X
[Pull Image]	X	O	X
[Request Log File]	X	O	O
[Get Registry]	X	O	X
[Apply Registry]	O	O	X
[Application Command]	O	O	O
[Force Configuration Update]	O	O	O
[Shadowing (VNC)]	X	O	O
[Update Agent]	O	O	O
[Check Network Status]	X	O	O

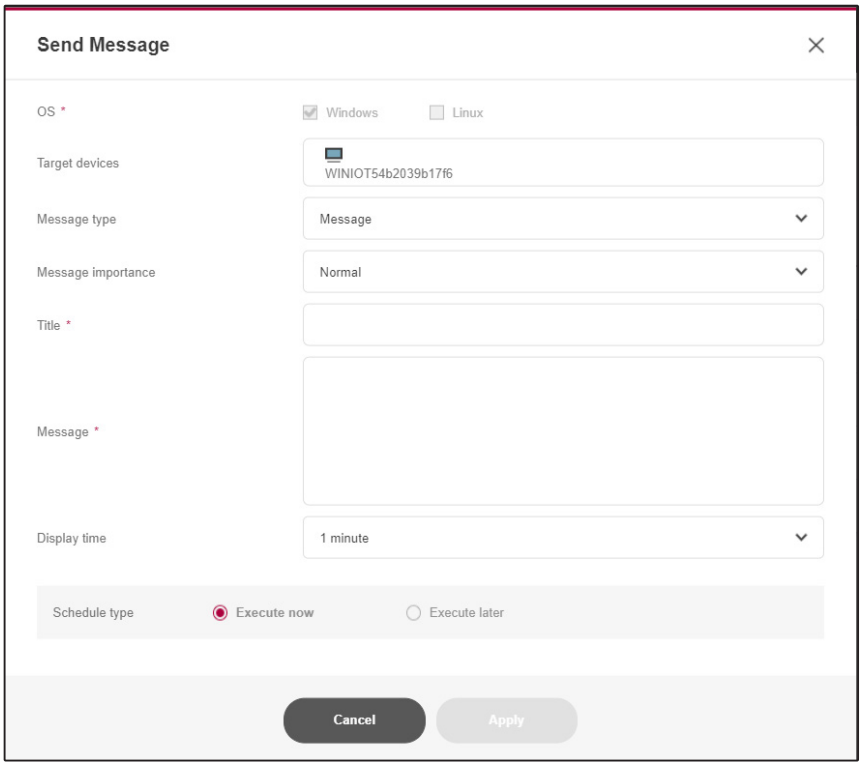
[Apply Template]

You can apply pre-made templates to groups or devices that belong to a group.
When applying a template, select the OS first, and then select and apply the template suitable for the OS from the list of templates.
Only generic templates are shown in the list of templates, and package templates cannot be selected.



[Send Message]

Administrators can send messages to devices in a group or to a specific device.



NOTE

- When sending a message, up to 300 characters can be sent.

[Lock Computer]

Administrators can lock a device in a group or a specific device.

[Restart]

Administrators can restart a device in a group or a specific device.

[Shutdown]

Administrators can shut down the system of a device in a group or a specific device.

[Log Off]

Administrators can log off the system of a device in a group or a specific device.

[Wake On LAN]

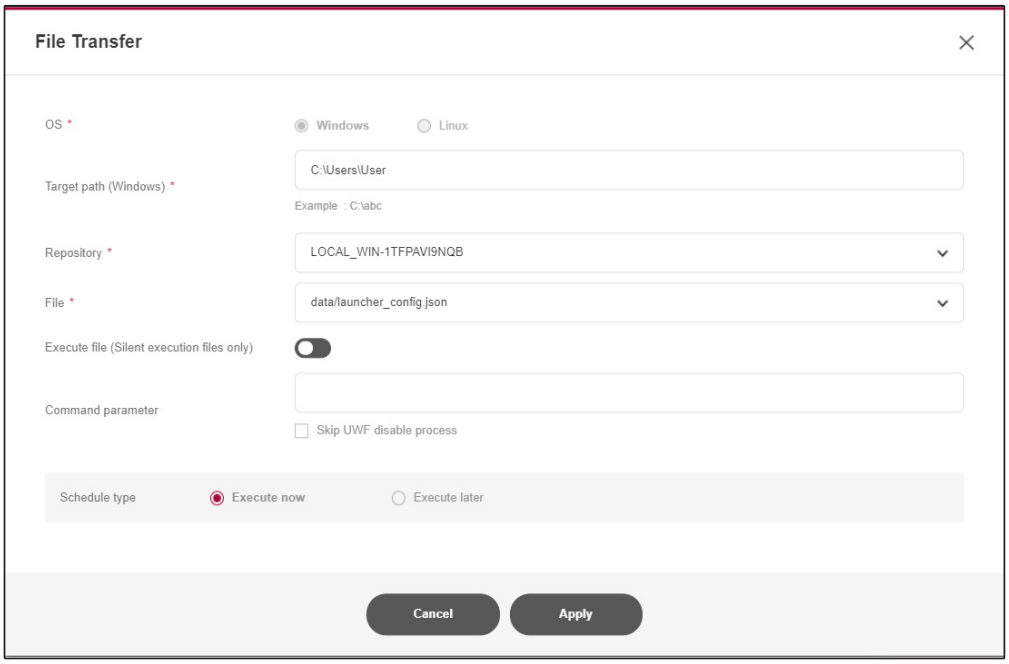
Administrators can use the [Wake On LAN] function to power on a device in a group or a specific device. This function works even when the device is in Sleep mode, allowing it to wake up and become available for use. However, please note that the [Wake On LAN] function may not work depending on the network configuration. Additionally, the Mobile Thin Client (laptop type device) cannot be powered on while it is turned off, since it uses an external Ethernet gender.

NOTE

For the device to function properly, it needs to have the same network address as the server and the switch should not restrict the broadcast. If you encounter any issues, please contact your network administrator for assistance.

[File Transfer]

Administrators can transfer files to a device in a group or to a specific device.
You can provide the path of the device to be transferred, specify the file, and apply the command parameter as needed.



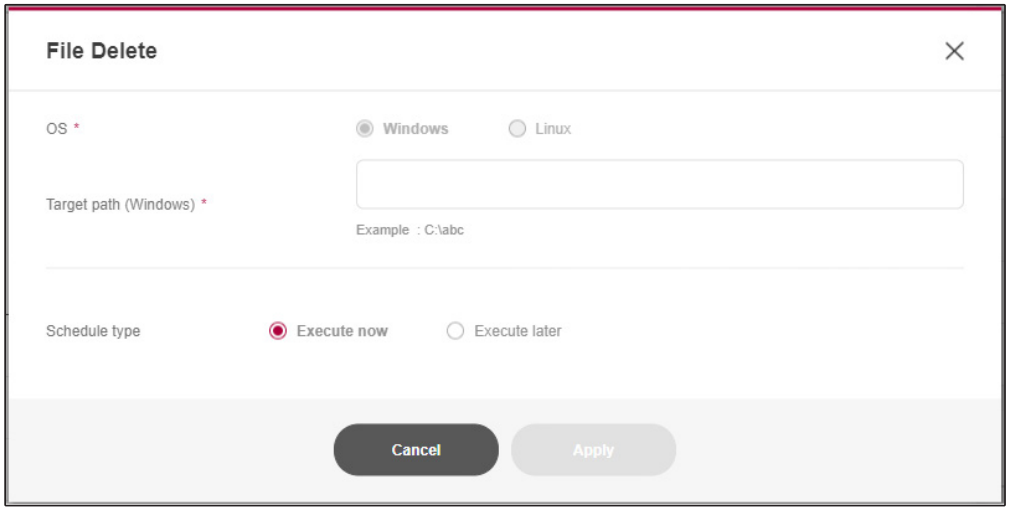
[Execute file] you can activate it to automatically execute the file after completing the file transfer.
If [Skip UWF Disable process] is checked, the device will proceed to execute the file without the UWF deactivation process.
It is used for a one-time execution without leaving the file transferred to the device.

NOTE

- In [Target path], you must enter the path of the folder name that exists on the device.

[File Delete]

Administrators can delete stored files on the device. You must enter the exact path and name of the file to be deleted.



[Import File]

Administrators can import files saved on specific devices. Depending on the browser, the saving location of the imported file may vary.

NOTE

- Since Linux devices are case-sensitive for file names, you can load the file normally only by entering the file name while distinguishing the upper or lower case of each character.

[SW & Patch Install]

Administrators can install software or patches on a device in a group or on a specific device. The software or patch to be installed must be saved in the server repository. Also, if you have saved the file to the server repository, you will need to run file synchronization to see it.
For file synchronization, see [Administration Settings] (⚙) → [File Repository].

[SW & Patch Uninstall]

Administrators can remove software or patches from a device in a group or a specific device.

NOTE

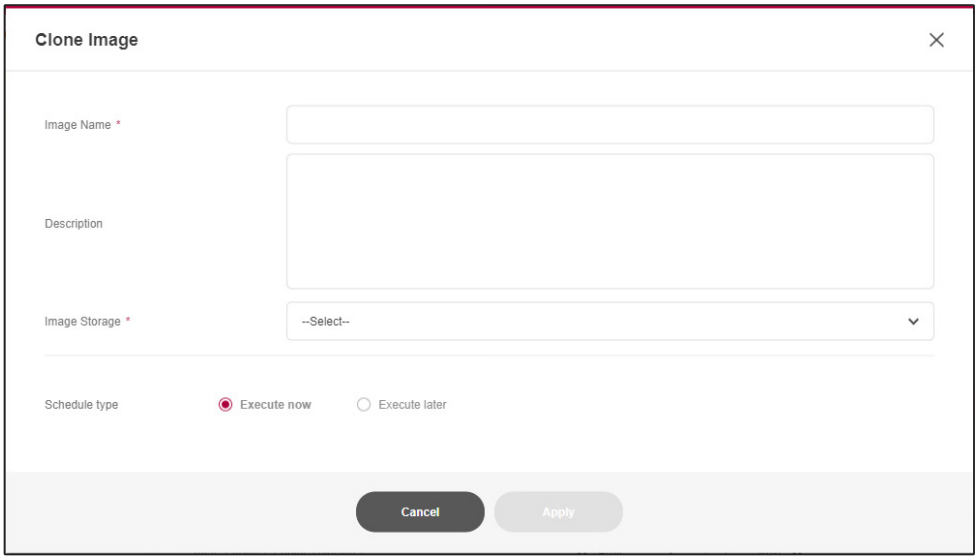
- For deletion, the name of the software to be deleted and the name of the software registered in the control panel must be the same to remove the software.

[Clone Image]

Administrators of LG Cloud Device Manager can clone the system image of a specific LG Cloud Device and deploy the image to that device and other devices. Image cloning is available from a single device.

How to clone the image

Select the device you want to clone the image from and select [Clone Image] in [More Actions].



- [Image Name]: Specify the file name of the image to be cloned. The file will be stored in [Image Storage].
- [Image Storage]: You can choose the repository or the cache partition to store the cloned image.
  You can download the cloned image stored in the cache partition to the repository by [Pull Image].

NOTE

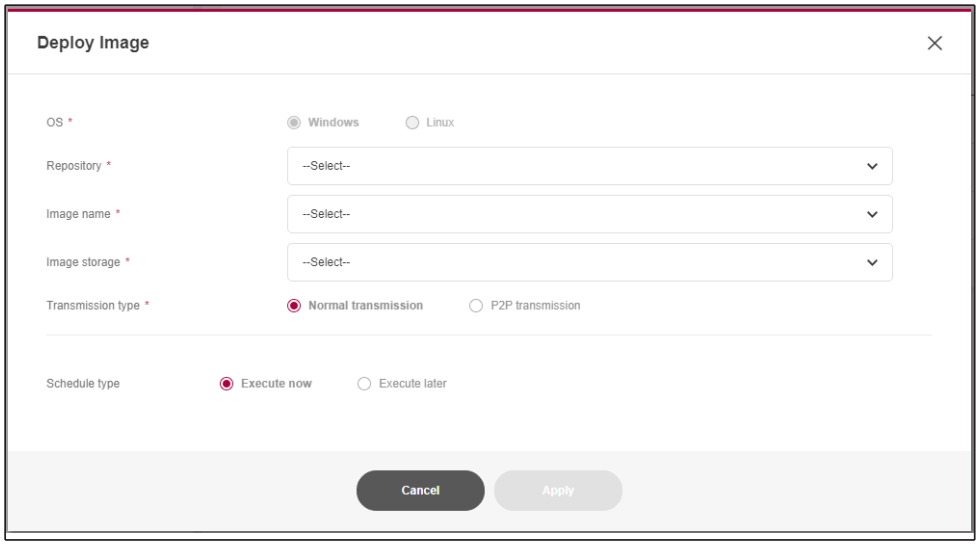
- Please ensure that the power and wired network connection of the device are maintained to be ON while the image is being cloned.
- The cloned image is managed in [Administration Settings] (⚙), [Cloned Images].
- When cloning an image, the items of the original device as shown below will be maintained when the image is generalized.
  - Windows: Computer name, installed SW, registry settings, network settings
  - Linux: Computer name, installed SW, network settings

[Deploy Image]

Administrators of LG CDM can deploy the system image of the reference device and distribute the image to other devices or device groups. Only deploy images that exist in the file repository or the device's image storage. If the [Deploy Image] task is not completed, it may not be displayed in the file list. At this time, check that the replication task has completed successfully and perform file synchronization of the file repository.

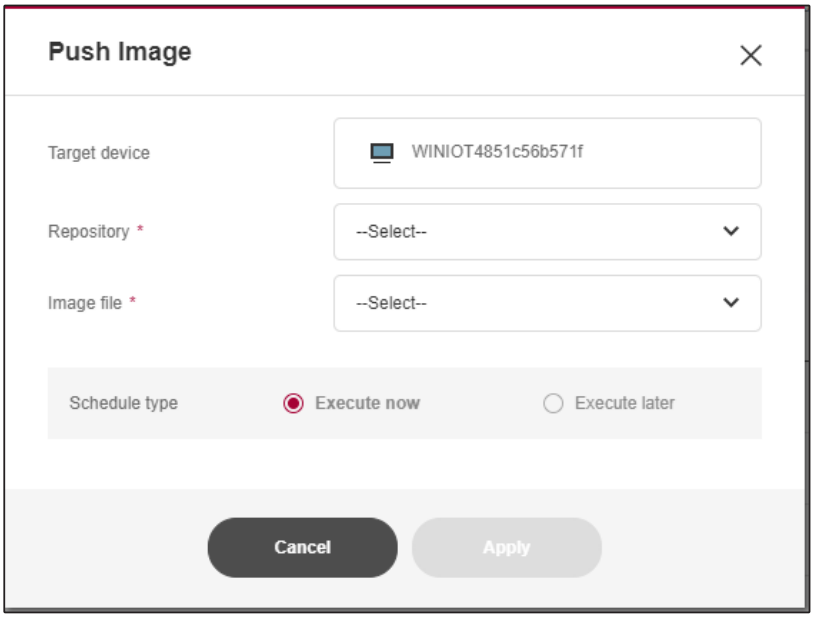
The P2P transmission is useful when deploying to multiple devices using remote repository.

This feature is only available with a valid license key.



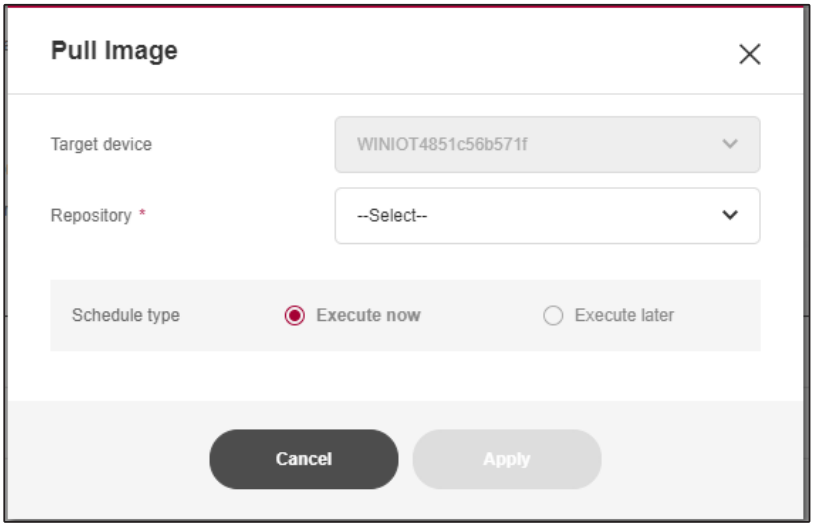
[Push Image]

The administrator of LG CDM can deploy the system image cloned from a specific device to the cache partition of another device. The target of [Push Image] must be a single device or a single group.
If the target device doesn't have Cache Partition, this task will fail.



[Pull Image]

The Administrators of LG CDM can request image from the device's Cache Partition. Pulled image is saved in the selected Repository.



NOTE

- Please ensure that the power and wired network connection of the device are maintained to be ON while the image is being cloned.
- The cloned image is managed in [Administration Settings] (⚙), [Cloned Images].

[Request Log File]

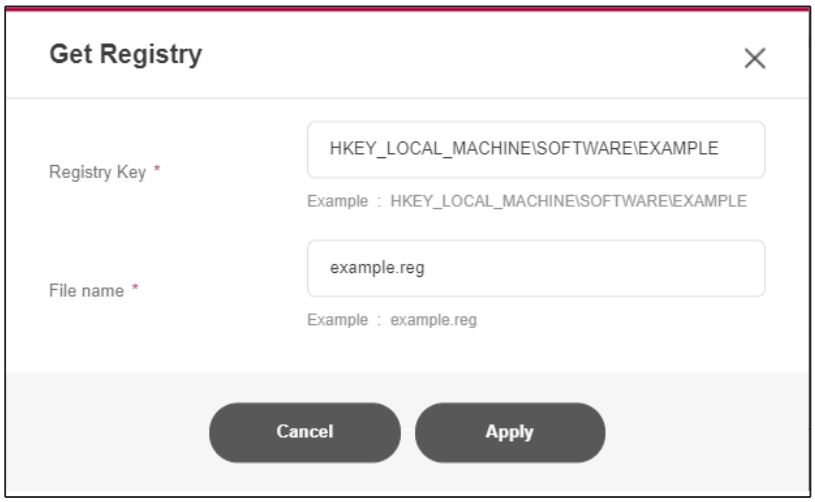
Administrators can request and import a log file of a specific device. The log file will be saved on the PC which operated the browser.

[Get Registry]

Administrators can request and import registry values of a specific Windows device. The registry requested is in key value units.

- [Registry Key]: Enter the registry key value to be imported.
- [File name]: Enter a file name to save the registry.

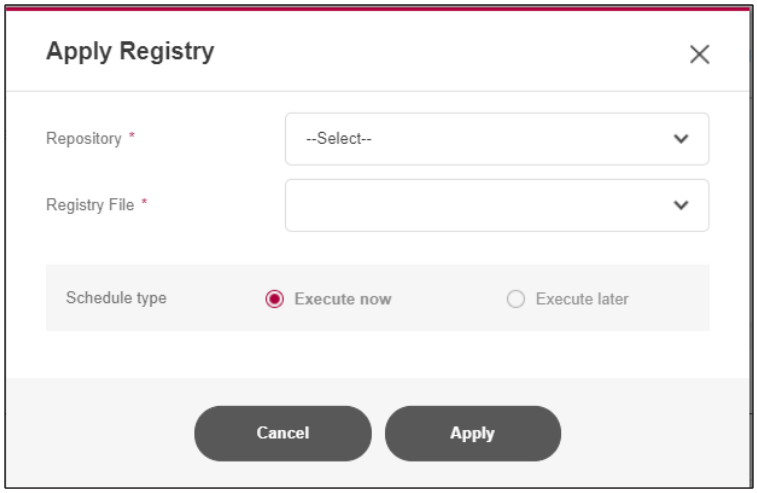
You can import a registry file of up to 20 MB, and the imported registry files will be saved in the browser's default storage location.



[Apply Registry]

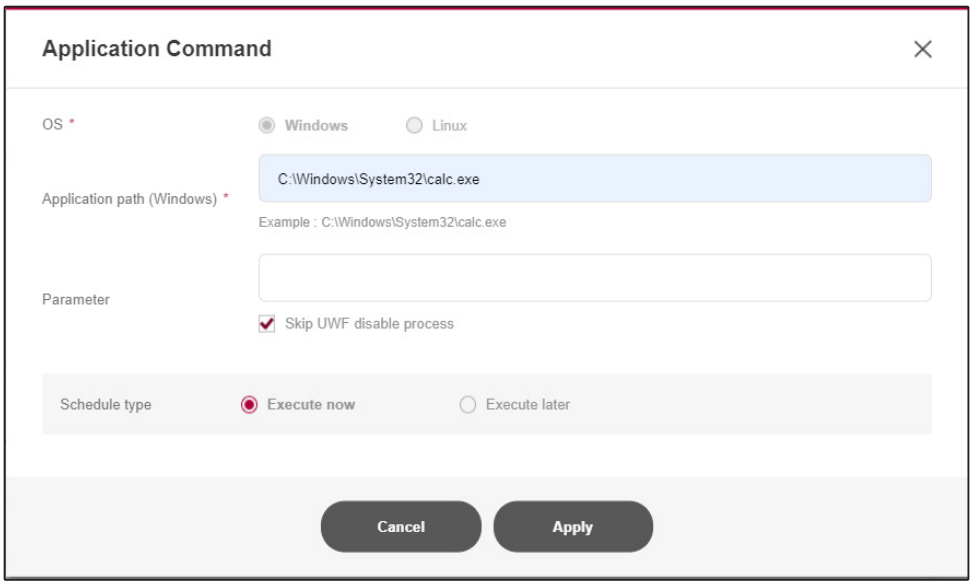
Administrators can apply registry values to a specific Windows device.

- [Apply Registry] can be applied to a single device or group.
- [Registry File]: Select the registry file to be applied among the registry files stored in the LG CDM repository.



[Application Command]

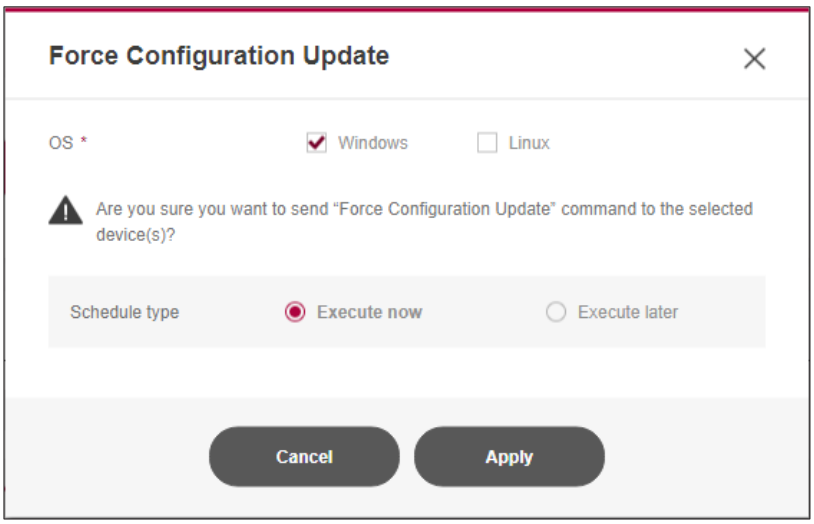
Administrators can run an application installed in a device in a group or in a specific device.
Command parameters can be applied as needed.



If [Skip UWF disable process] is checked, the device will proceed to execute the file without the UWF deactivation process.
It is used to execute the application only once on the device without leaving any settings.

[Force Configuration Update]

If the configuration status of LG CDM is different for a device in a group or a specific device, administrators can force it to match all devices.

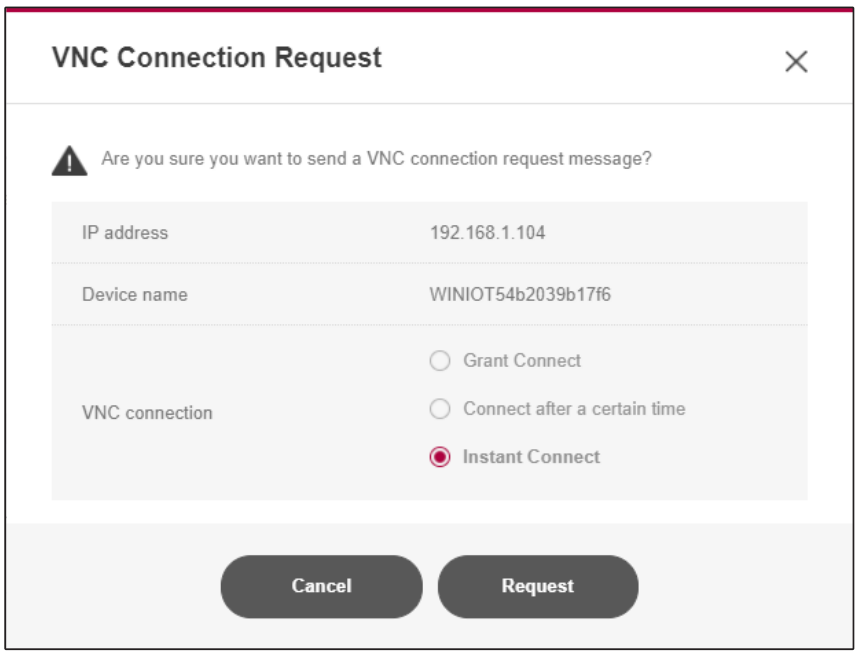


[Shadowing (VNC)]

Administrators of LG CDM can access LG Cloud Device through the [Shadowing (VNC)] function.
The function to access LG Cloud Device may be affected by the network environment of the device.
When the LG CDM administrator requests the [Shadowing (VNC)] function, the user of the target device will receive a pop-up message confirming the permission.
If the user permits the shadowing, the VNC session will start.

NOTE

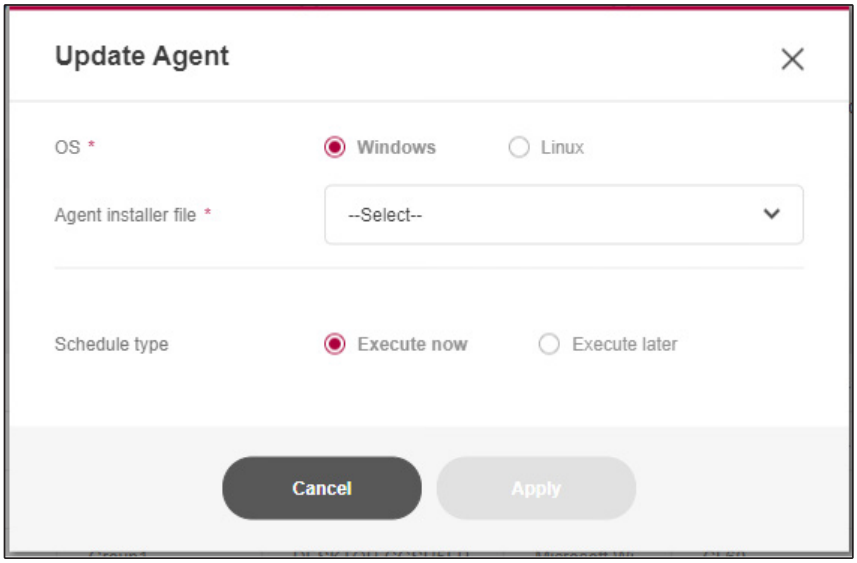
- The default password for VNC connection is '@lgcdm'.



- [Port No.]: Enter the [Port No.] defined by the VNC program of the target device.
  - The action after requesting VNC connection varies slightly depending on the VNC connection method (see [Administration Settings] (⚙) → [General settings] → [VNC Connection]).
- [Grant Connect]: Connection will be made only if the device user has allowed it.
- [Connect after a certain time]: If the device user does not allow/cancel, the connection can be made after a certain time.
- [Instant Connect]: When requesting VNC connection, you can connect immediately without user permission.
- The VNC connection screen provides some special keys.
  - Alt+F4: Close the currently active program.
  - Alt+Tab: Switch tasks.
  - Ctrl+Alt+Del: Invoke Task Manager.
  - Alt Down: move up, scroll up, etc. (It may be different depending on the program you are using)
  - Alt Up: move down, scroll down, etc. (It may be different depending on the program you are using)

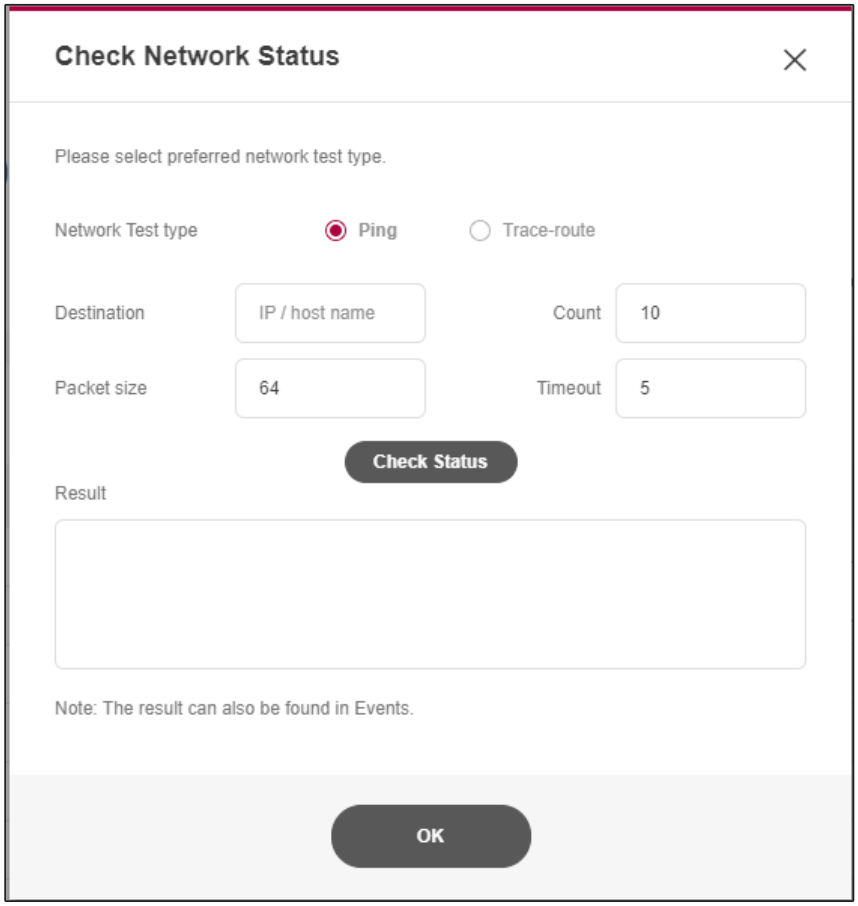
[Update Agent]

Administrators can update the agent for the device group or selected device. In order to update the agent for a device group or selected device, the corresponding agent must be available in the file repository and registered in the [Software Management] system.
Registration is described in Chapter 11.
If the agent installation file is not displayed, perform [File Sync] of file repository.
For file synchronization, see [Administrations Settings] (⚙) → [File Repository]

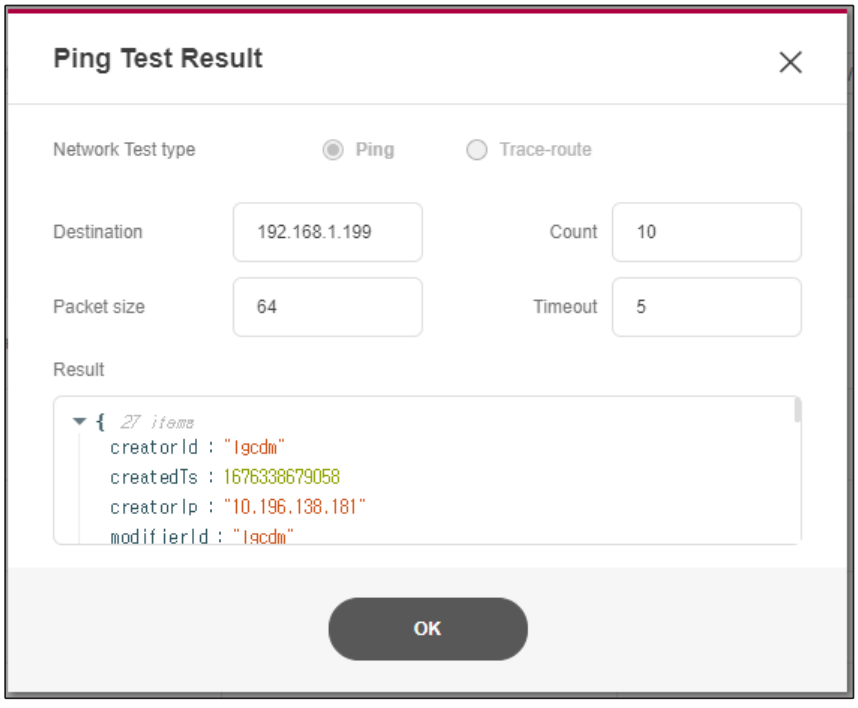


[Check Network Status]

If you suspect there is an issue with the device's network performance, such as unstable command arrival, you can check the device's network status.

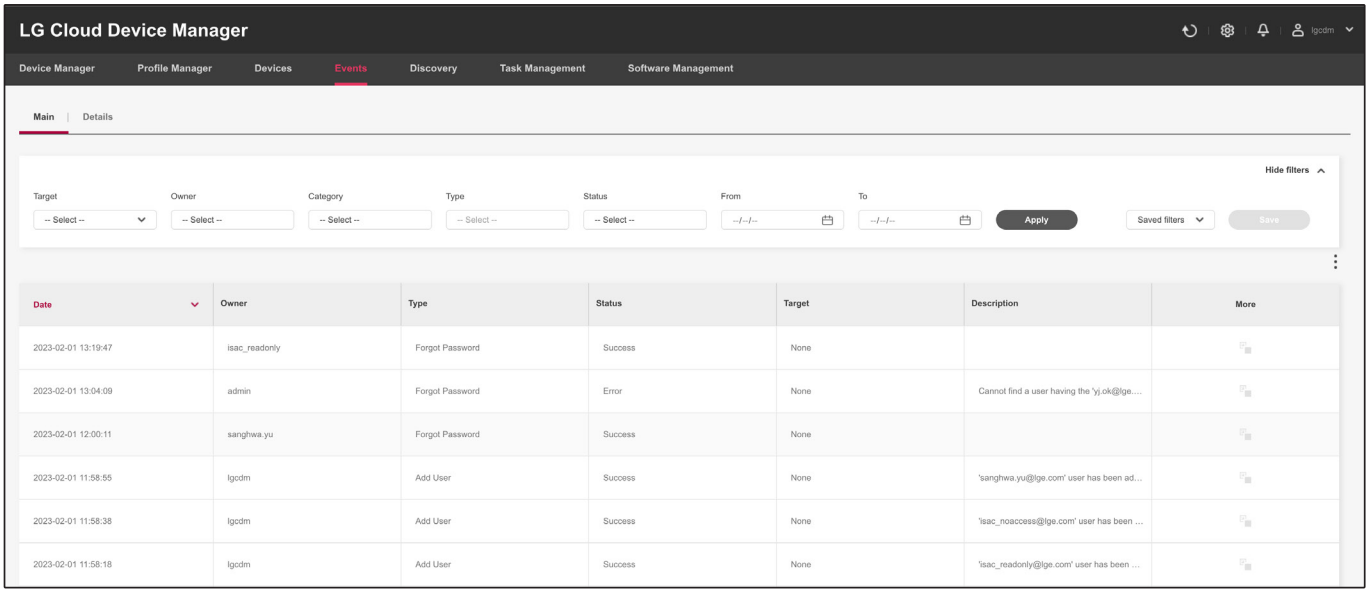


You can select the appropriate type of network test, such as ping or traceroute, and initiate the diagnosis using the chosen diagnostic method for the environment. The results are displayed in JSON format and can be reviewed in the [Details] section of the [Measure Network Status] event located in the [Events] tab.



9. Events

The [Events] tab displays a list of tasks performed through LG CDM.
This screen allows the administrators to use LG CDM to check whether the command has been executed.

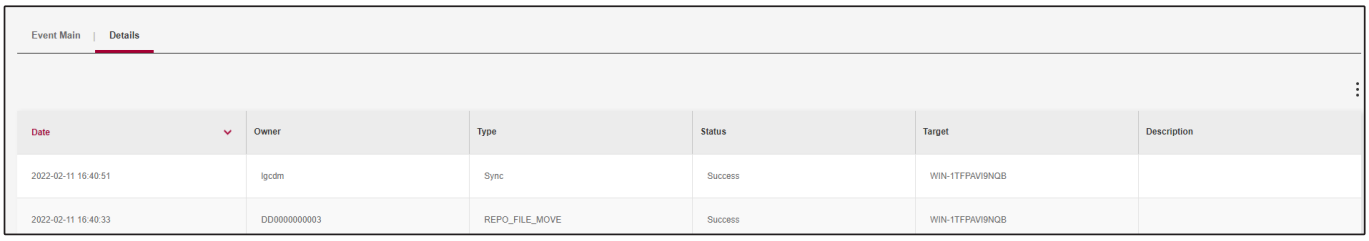


[Main]

Administrators using LG CDM can check the execution history of the tasks, including the time at which a specific command was generated, the type of task, the task result, and the ID of the administrator who started the task.

[Details]

In [Event Main] table, you can click icons in [More] column to go to [Details] of events. In [Details], you can view event Date, Owner, Type, Status, Target and Description.



Filter Management

The function to search via event filtering: By designating a specific value to a specific column in the event list, you can see only the result that matches the specified value in a list.

Filter Items

- [Target]: You can select among [Group], [Device], [Repository], [System].
  - When you select [Group], the [Group] filter appears on the right and you can select a desired group from the [Group] filter.
  - When you select [Device], the [Device name] filter appears on the right, and you can search by entering the [Device ID] you want to search in the below [Device name] box.
  - When you select [Repository], the [Repository] filter appears on the right, and you can select the repository of your choice.
  - [System] TBD.
- [Owner]: Select the user of LG CDM.
- [Category]: You can search LG CDM for categories for administrative features.
- [Type]: It becomes enabled if you select an item from [Category]. You can select detailed items for administrative features.
- [Status]: You can search by selecting the status of the action performed by the administrator.
- [From] / [To]: You can set the administrator's working hours to search.

Apply Filter

After selecting a filter item, click the [Apply] button to display it in the list below.

Save Filter

You can save frequently used filters by clicking the [Save] button after selecting a filter item. When saving, enter [Name] and [Description]. When you finish saving, it appears as a name in [Saved filters] on the left.

You cannot save the filter if there is already a saved filter with the same options.

Using Saved Filters

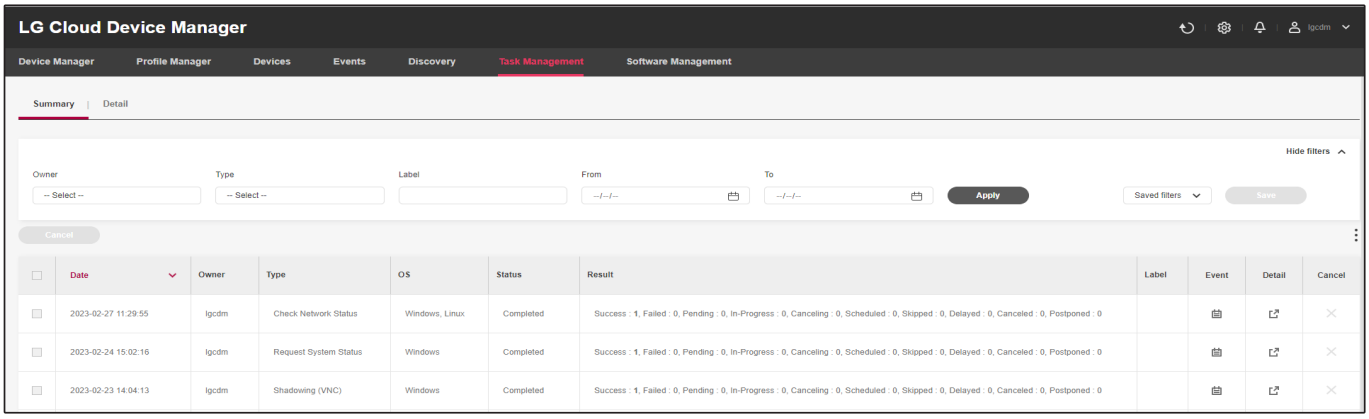
Select the saved filter desired from the [Saved filters] list. The items of the selected filter are selected in the filter list. Click the [Apply] button to show them in the list below.

[Hide filters] / [Open filters]

You can see the [Hide filters]/[Open filters] buttons at the top right of the filter.

10. Task Management

The [Task Management] function displays detailed information about the tasks delivered to LG Cloud Device or a device group.
The LG Cloud Device administrators can view detailed information and check whether the task is in progress.
Tasks are divided into [Summary] and [Detail]. [Summary] displays information by device group or task delivered to the device, and [Detail] displays information by each device.



[Summary]

Displays information based on the task applied by the user.

Filter Items

- [Owner]: Select the user of LG CDM.
- [Type]: You can select the details of the task delivered to the device.
- [Label]: You can search by entering the group name of the applied device.
- [From] / [To]: You can search by setting the working hours of the task delivered to the device.

Items displayed in the list

- [Date]: Time when the task was set
- [Owner]: Users of LG CDM to which the task is applied
- [Type]: Details of the task. If you click a detailed item, you can go to [Detail] and check the information for each device.
- [OS]: OS to which the task is applied
- [Status]: Displays the status of the task. Displays as [Running], [Completed], etc.
- [Result]: Displays the results of the task. Displays the status of [Success], [Failed], [Pending], [In-Progress], [Canceling], [Scheduled], [Skipped], [Delayed], [Canceled], [Postponed]. When you click on the certain result from [Result], you can check details about that result.
- [Label]: If a task is assigned to a device group, the device group name is displayed in [Label].
- [Event]: You can move to the [Event] menu.
- [Detail]: Displays information in a pop-up window.
- [Cancel]: When the task can be stopped, the [Cancel] button is activated on the task list.

[Detail]

Displays information about the task by device. You can search through the [Status] entry in the filter, and you can see why the task failed.

Filter Items

- [Device]: You can search by entering the device ID.
- [Owner]: Select the user of LG CDM.
- [Type]: You can select the details of the task delivered to the device.
- [Status]: You can select the status of the task.
- [From] / [To]: You can search by setting the working hours of the task delivered to the device.

Items displayed in the list

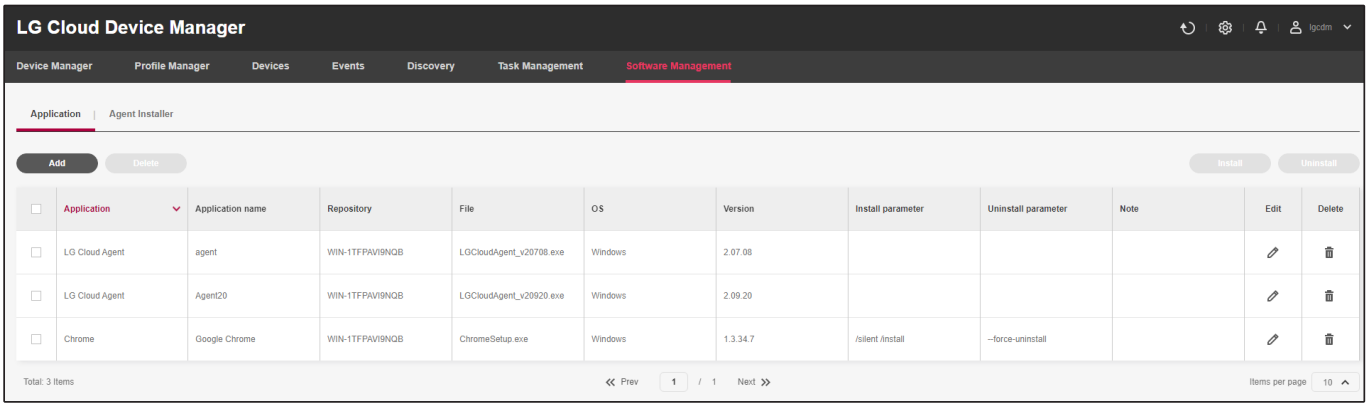
- [Date]: Time when the task was set
- [Device]: Displays the [Device ID] to which the task has been applied.
- [Owner]: Users of LG CDM to which the task is applied
- [Type]: Details of the task. If you click a detailed item, you can go to [Detail] and check the information for each device.
- [OS]: OS to which the task is applied
- [Started on]: Displays the start time at which the task was applied to the device.
- [Ended on]: Displays the time at which the task was applied to the device.
- [Status]: Displays the status of the task. Displays the status of [Success], [Failed], [Pending], [Inprogress], [Canceling], [Scheduled], [Skipped], [Delayed], [Canceled].
- [Reason]: Displays the reason for the task's failure.
- [Event]: You can move to the [Event] menu.
- [Cancel]: When the task can be stopped, the [Cancel] button is activated on the task list.

Cancel Task

When the task can be stopped, the [Cancel] button is activated on the task list. The administrator can cancel the task by using this button.

11. Software Management

LG CDM can manage the Application to install and remove from the device. Manages the Installer of LG Cloud Agent, which is installed on the device for synchronization between LG CDM and the device.
To manage each software, you must first copy the installation file to the 'apps' directory in the repository directory.
The files copied to the directory above will be managed and configured as a list by LG CDM. (Refer to [File Management] on "12. Administration Settings" page)

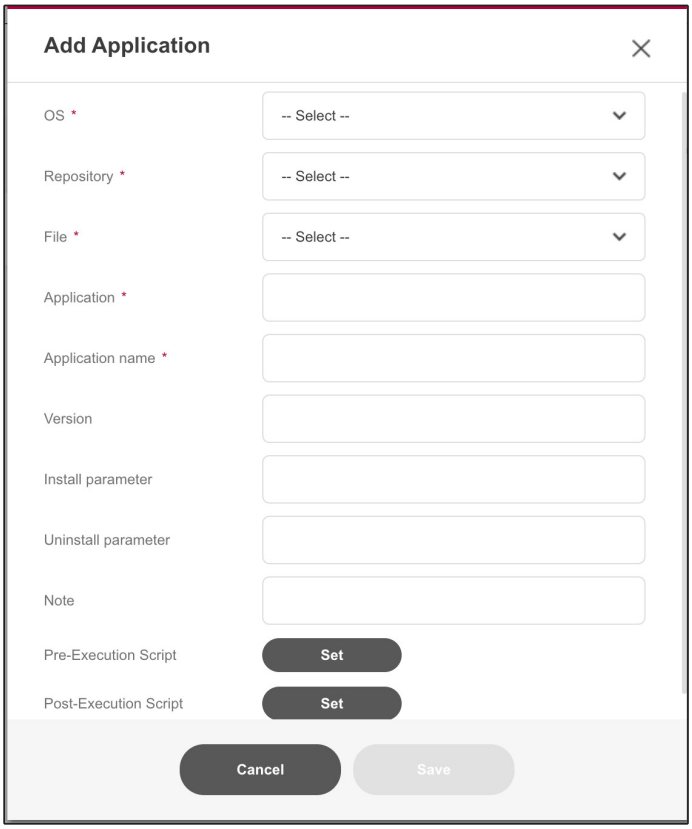


[Application]

Manage general applications. You must add it to the [Application] list to be able to use it in [SW & Patch Install] / [SW & Patch Uninstall] in [More Actions].

Add application

Click the [Add] button to add options for installing and uninstalling SW.



- [OS]: Select the OS.
- [Repository]: Select the repository in which the application you want to add exists.
- [File]: Select the software to add. If you do not have the software, refer to [File Management] in "12. Administration Settings" to add the application.
- [Application]: Enter the administrative name of the software to be registered. It may be automatically entered when selecting the application from [File]. In the case of a Windows application, you'll need to write the name that appears in [Apps and Features] on Windows before [Uninstall] works.
- [Application name]: Enter a name to be displayed in the [SW & Patch Install] / [SW & Patch Uninstall] pop-up from [More Actions].
- [Version]: Enter the version information of the software.
- [Install parameter]: Enter the installing parameter. Enter it by referring to the software's help section.
- [Uninstall parameter]: Enter the uninstalling parameter. Enter it by referring to the software's help section.
- [Note]: Enter the content to be added.
- [Pre-Execution Script]: Add the script to execute before you install or delete the software. Able to add script by clicking the [Set] button.
  - [Repository]: Choose the file repository where the script is located
  - [File]: Choose the script that you want to execute
  - [Install parameter]: Set the install parameter
  - [Uninstall parameter]: Set the uninstall parameter
- [Post-Execution Script]: Add the script to execute after you install or delete the software. Able to add script by clicking the [Set] button.
  - [Repository]: Choose the file repository where the script is located
  - [File]: Choose the script that you want to execute
  - [Install parameter]: Set the install parameter
  - [Uninstall parameter]: Set the uninstall parameter

NOTE

- The silent option must be entered for normal installation/uninstallation of the application. Refer to Help in the application for silent option of the application. If there is an error in the parameter, it may not be installed/uninstalled normally.

Deleting applications

- You can delete applications from the [Application] list. When deleting multiple items, check the checkbox on the left of the list and use the [Delete] button at the top. To delete an item, use the delete icon on the right.

Installing applications

- You can install applications on the device. The [Installation] button on the right side of [Application] is performed in units of groups managed in [Device Manager]. Application installation is also available in the [SW & Patch Install] menu in [Device Manager]. If you check only one checkbox on the left of the list item, the [Install] button will be activated.

Uninstalling applications

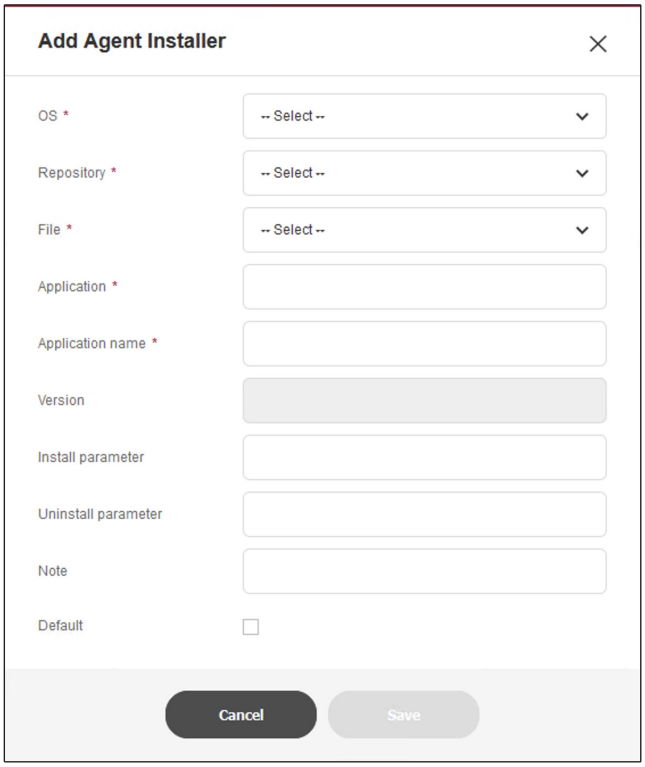
- You can uninstall applications installed on the device. The [Uninstall] button on the right side of [Application] is performed in units of groups managed in [Device Manager]. Uninstalling applications is also possible at the [SW & Patch Uninstall] menu in [Device Manager]. If you check only one checkbox on the left of the list item, the [Uninstall] button will be activated.
- In case of uninstalling the Application from the Window OS, the [Application name] on the CDM and the application name displayed on the [SW & Patch Install] must be the same.

[Agent Installer]

Manages the update software for the LG Cloud Agent. You must add it to the [Agent Installer] list to be able to use it in [Update Agent] in [More Actions].

Add agent

Click the [Add] button to add options for installing SW.



- [OS]: Select the OS.
- [Repository]: Select the repository in which the application you want to add exists.
- [File]: Select the agent to add. If you do not have the software, refer to [File Management] in "12. Administration Settings" to add the application.
- [Application]: Registered as LG Cloud Agent.
- [Application name]: Enter a name to be displayed in the [Update Agent] pop-up in [More Actions].
- [Version]: Displays the version information of the software application.
- [Install parameter]: Enter '/S /v/qn'.
- [Uninstall parameter]: Uninstalling the agent through LG CDM is not available.
- [Note]: Enter the content to be added.
- [Default]: if checked it, you can only select the corresponding agent in the [Update Agent] of [More Actions].

Delete agent

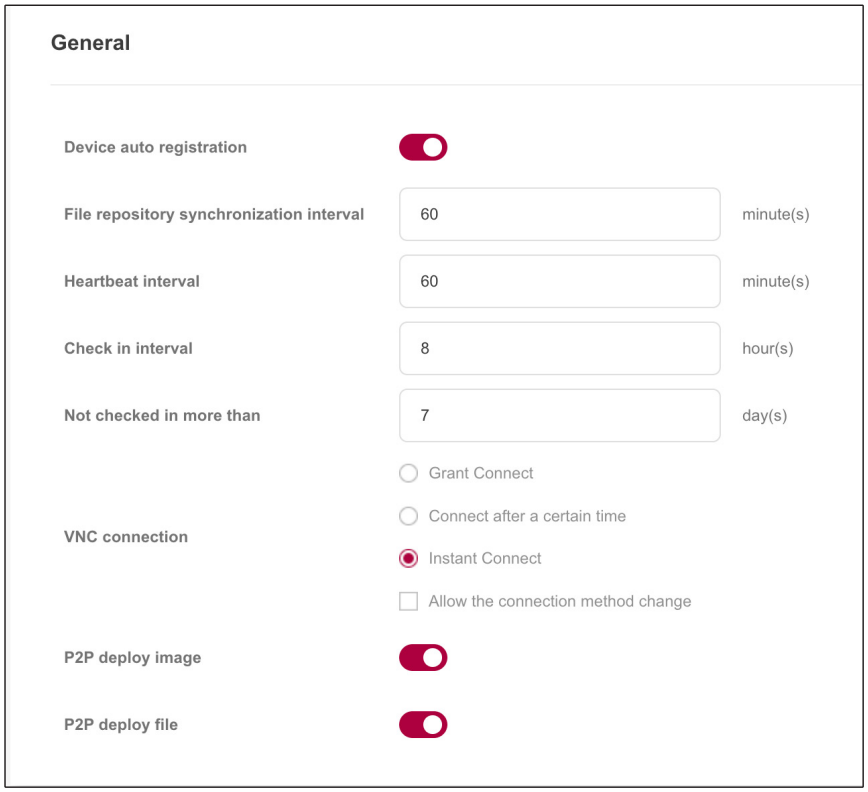
- Uninstall it from the [Agent Installer] list. When deleting multiple items, check the checkbox on the left of the list and use the [Delete] button at the top. To delete an item, use the delete icon on the right.

12. Administration Settings

You can set the management functions of LG CDM.

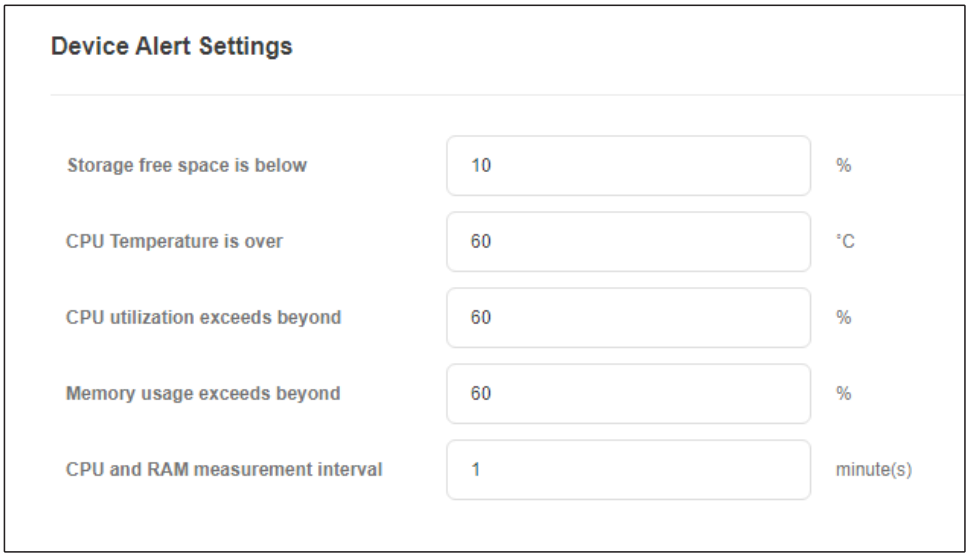
[General Settings]

[General]



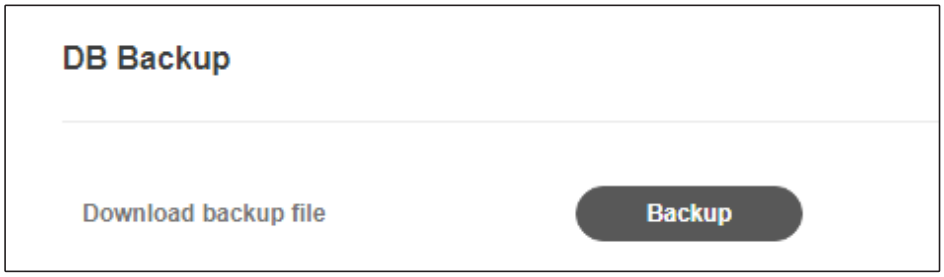
- [Device auto registration]: You can set whether to automatically register the device through the DHCP and DNS servers.
  - If the auto registration is on, the devices with group tokens will be automatically registered to belong to the corresponding group, and the devices without a group token will be registered under the default group.
- [File repository synchronization interval]: Set the file repository synchronization interval. Information in the [File Management] will be updated at the specified time interval.
- [Heartbeat interval]: Set the device's heartbeat interval. The device checks the device connection status through a heartbeat that is passed from the device to the LG CDM server.
- [Check in interval]: The time at which the status information is sent from the device to the server and the interval at which the task is checked will be changed to the set values.
- [Not checked in more than]: You can specify the maximum management period for devices that are not checked in. Devices that have not checked in for a set period of time will be displayed in the group dashboard.
- [VNC connection]: Set the VNC connection method.
  - [Grant Connect]: VNC connection is possible only when the device permits the connection.
  - [Connect after a certain time]: If the device does not allow/cancel, the connection can be made after a certain time.
  - [Instant Connect]: You can connect immediately without the device's permission.
  - [Allow the connection method change.]: If you enable this setting, you can select the VNC connection method in the [VNC Request] popup in [More Actions].
  - [P2P deploy image]: Enables the P2P action when deploying images. You must enter a license key to display the [P2P deploy image] item.
  - [P2P deploy file]: Enables the P2P action when deploying files. You must enter a license key to display the [P2P deploy file] item.

[Device Alert Settings]



- [Storage free space is below]: Set the free space on the hard disk. If there is less free space than set, it will be displayed in [Notifications].
- [CPU Temperature is over]: Set the CPU temperature of the device. If the temperature is higher than the set temperature, it will be displayed in [Notifications].
- [CPU utilization exceeds beyond]: Set the CPU utilization of the device, and if the CPU utilization set in the device is exceeded, it will be displayed in [Notifications].
- [Memory usage exceeds]: Set the memory usage of the device, and if the memory usage set in the device is exceeded, it will be displayed in [Notifications].
- [CPU and RAM measurement interval]: Set the cycle for checking any excess in “CPU utilization” and “memory usage.”

[DB Backup]



Administrators can obtain the content of a DB with the function to download the backup file of LG CDM.
You can back up the current settings by clicking [Backup] button.

DB restoration

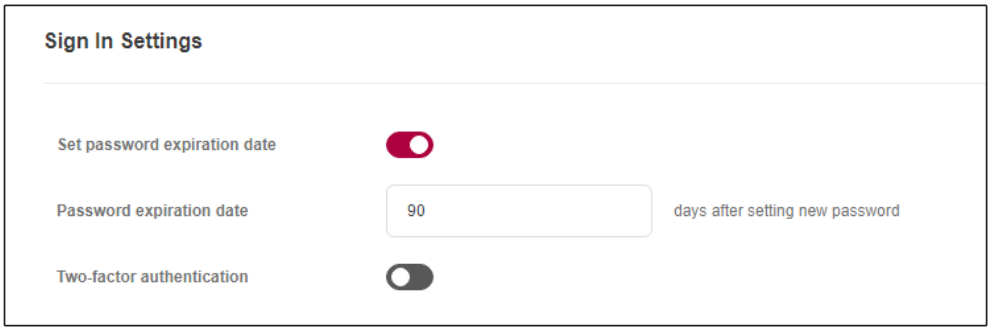
You can restore the DB using the DB backup file.

1 Preparations
- Prepare the DB backup file
- Check the administrator ID and password of the DB entered when installing LG CDM
- Prepare a batch file for DB restoration You can ask LG Electronics Sale Engineers for the script files.

2 Sequence of the work
- Edit the Restore-lgcdm.bat using Notepad.
- Enter the following information correctly in Restore-lgcdm.bat:
  SET RDB_USER_PWD =
- Execute Restore-lgcdm.bat in the folder where the DB backup file is located.

```
c:\LGCDM_V11_BACKUP\restore>restore.bat lgcdm-data-1585127100683.bak
Stopping Apache Tomcat ...
The LG_Tomcat service is stopping.
The LG_Tomcat service was stopped successfully.


Waiting for  0 seconds, press a key to continue ...

Waiting for  0 seconds, press a key to continue ...
Succeed to initialize tables
Succeed to restore data from lgcdm-data-1585127100683.bak
------------------------------------------------------------
Starting Apache Tomcat ...
------------------------------------------------------------
The LG_Tomcat service is starting.
The LG_Tomcat service was started successfully.


SERVICE_NAME: LG_Tomcat
        TYPE               : 10  WIN32_OWN_PROCESS
        STATE              : 4  RUNNING
                                (STOPPABLE, NOT_PAUSABLE, ACCEPTS_SHUTDOWN)
        WIN32_EXIT_CODE    : 0  (0x0)
        SERVICE_EXIT_CODE  : 0  (0x0)
        CHECKPOINT         : 0x0
        WAIT_HINT          : 0x0

c:\LGCDM_V11_BACKUP\restore>
```

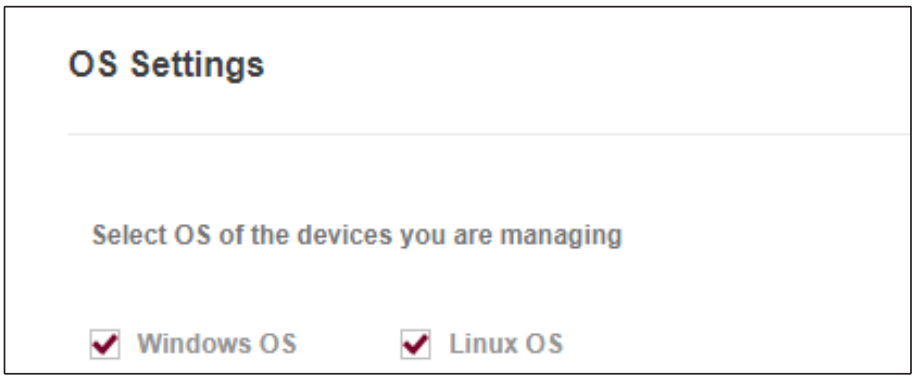
[Sign In Settings]



- [Set password expiration date]: Set the password expiration date for the account. If [Set password expiration date] is enabled and an expiration period is set, the password must be changed after the lapse of the expiration period. The password expiration period can be set from 3 to 180 days.
- [Two-factor authentication]: Supports two-factor authentication when logging in to your account. For two-factor authentication, [Mailer Engine] must be set because the OTP value is delivered through e-mail.

[OS Settings]

LG CDM has all menus to manage both Windows OS devices and Linux OS devices. When one OS device is managed, the menu will be changed to the one for the OS of the device to be managed.

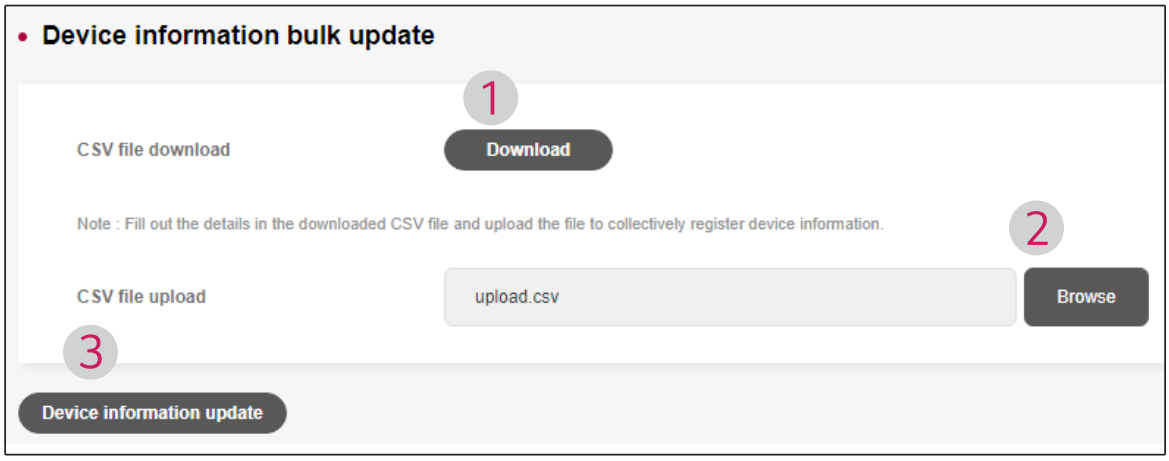


NOTE

- After changing the settings, click the [Save] button at the bottom to apply the changes.

[Device information bulk update]

It provides a way to update the [System information] of reigstered device details in bulk.



1 Download a sample CSV file where you can enter the [System information].
- Enter the device information in the CSV file as shown below. The MAC address and computer name of the entire device can be obtained through [Export to CSV] in the [Device] menu.

<sample.csv>

MAC(17)	HOST_NAME(15)	LOCATION(64)	DEPARTMENT(64)	ASSET_ID(15)	DESCRIPTION(128)
[redacted]	"Your name"	"Your location"	"Your department"	"Your asset Id"	"Your description"

2 Upload the created CSV file and click the [Device information update] button to proceed with the update.

<upload.csv>

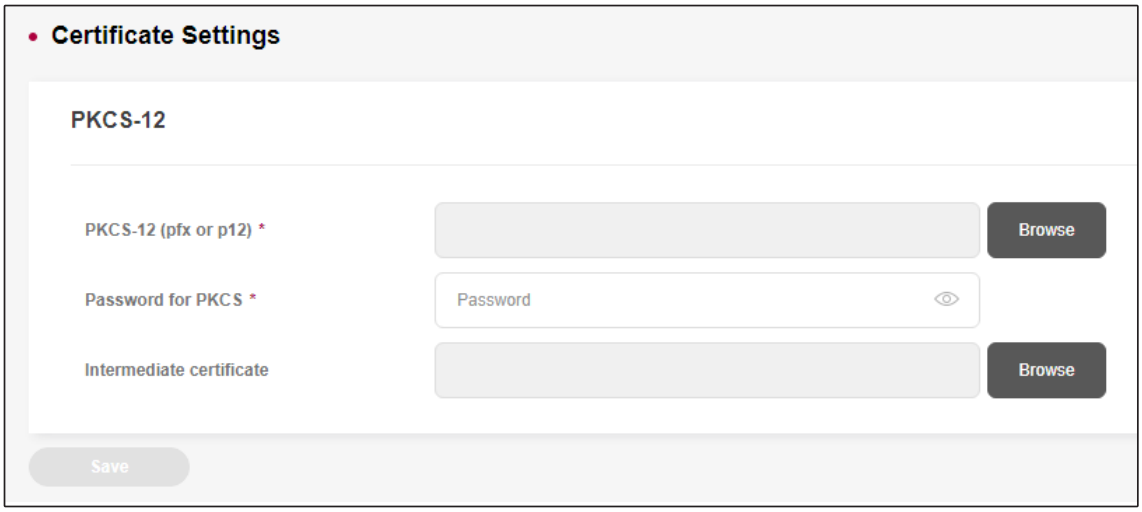
MAC(17)	HOST_NAME(15)	LOCATION(64)	DEPARTMENT(64)	ASSET_ID(15)	DESCRIPTION(128)
[redacted]	LGTHINCLIENT	R1	MNT B2B	WINIOT54b2039b17f6	sample device
	ubuntu	R2	MNT B3B	WINIOT54b2039b17f7	sample device
	CK500	R3	MNT B4B	WINIOT54b2039b17f8	sample device
	THINCLIENT	R4	MNT B5B	WINIOT54b2039b17f9	sample device

NOTE

- You can check the progress of [Device information bulk update] in [Events].

[Certificate Settings]

Apply the certificate to LG CDM to provide the secure access function to the administrator's web console.



[License]

You need to enter a license key to use paid features.

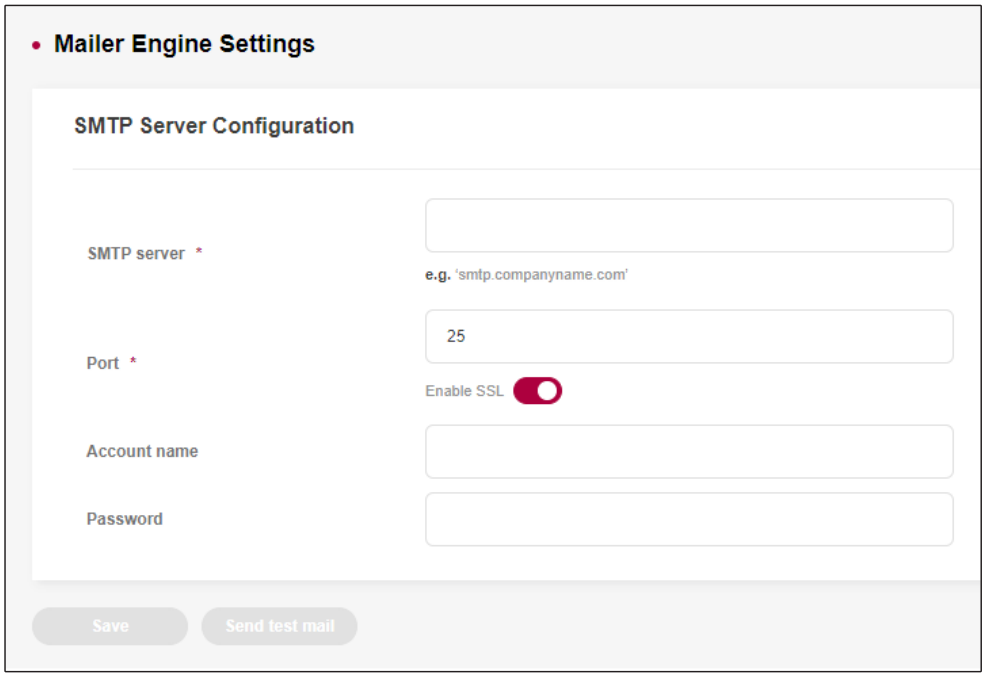
When you apply the authentication key, you can see the number of registered devices and the total number of devices you can register. Please contact LG Electronics for the license key.

NOTE

- Enter the license key to enable premium features.
- Premium features: [Remote Repository], [Repository Cluster], [P2P deploy file],[P2P deploy image], [Administration Settings] tab and [BIOS Settings] tab in Configuration settings
- CDM will notice starting from 60 days before the license key expires that you cannot use the premium features after the license is expired.

[Mailer Engine Settings]

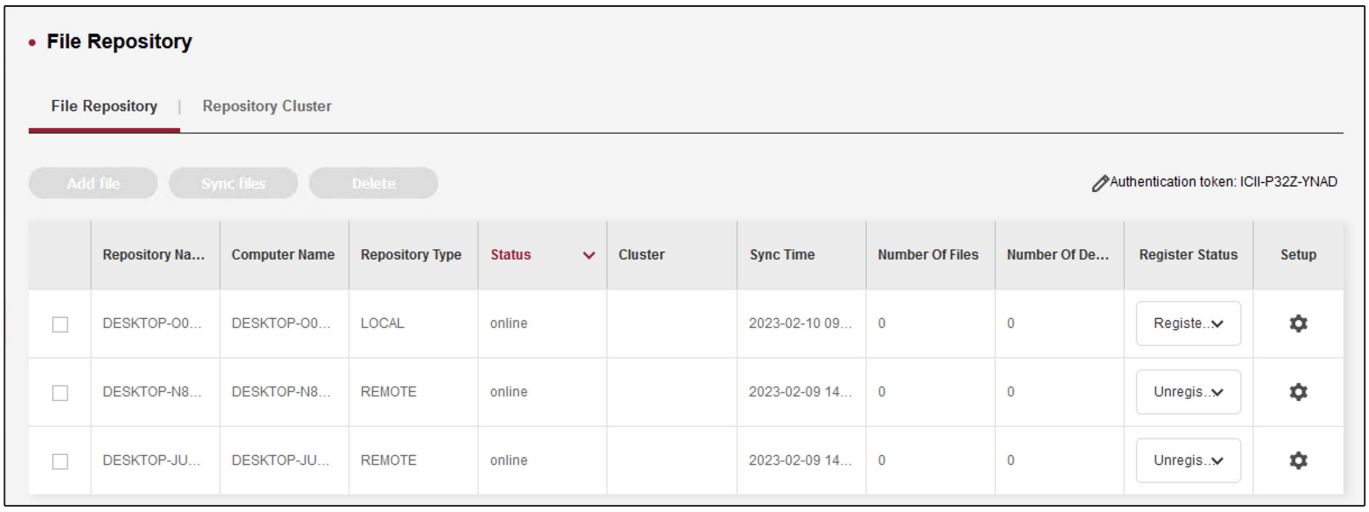
In LG CDM, password reset confirmation can be sent via e-mail.



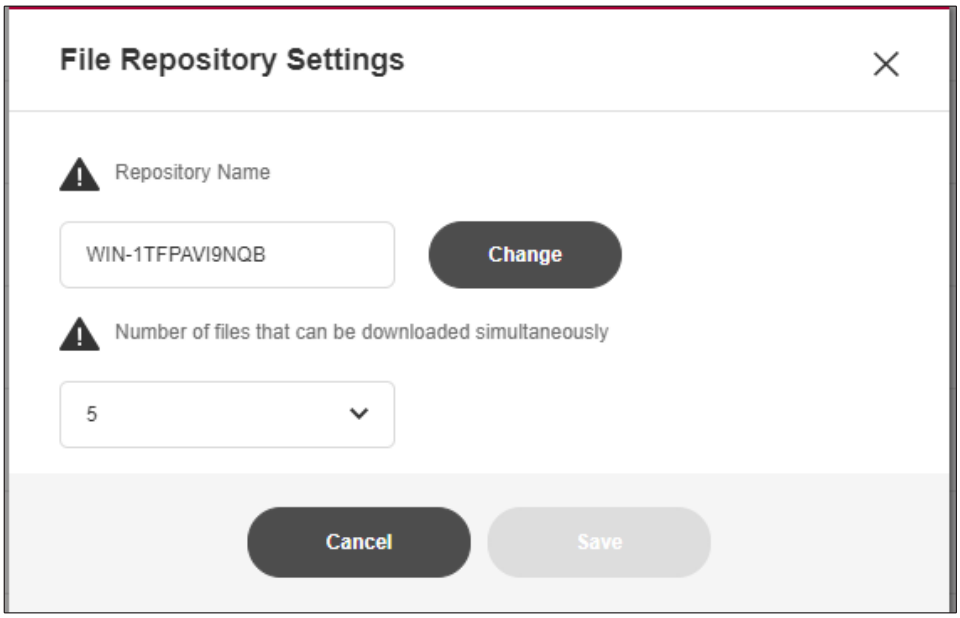
- [SMTP server]: Enter the FQDN of the SMTP server you want to use.
- [Port]: Provide the port number of the SMTP server.
- [Enable SSL]: Enable if the SMTP server requires the SSL settings.
- [Account name]: Enter the SMTP server account information if the SMTP server requires authentication.
- [Password]: Enter the password for the SMTP server account.

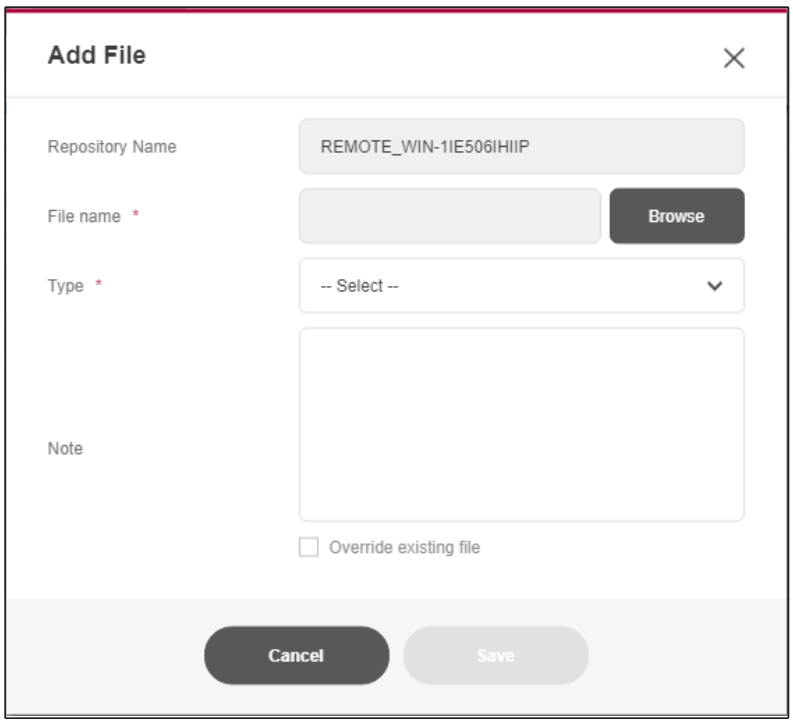
[File Repository]

LG CDM supports up to 20 repositories, including one local file repository and multiple remote file repositories. You can register / unregister / delete file stores in [File Repository], add files to the file repository, and synchronize repository files.



- Unregister / Register file repository: You can unregister / register file repository in the [Register Status] item in the repository list. When you unregister the file repository, the files in the file repository become unavailable.
- [Delete]: Deletes the file repository from the list. You can only delete remote file repositories that have been unregistered. Deleted remote file repositories must be reinstalled before they can be used.
- [Add file]: You can add files to the file repository. Select the file repository to add the file to and click the [Add file] button.
- [Sync files]: Periodically refresh the list of files in the file repository for use by LG CDM. Performs forced synchronization to immediately reflect changes in the Apps and Data directories.
- [Setup]: You can modify the repository's name, as well as the maximum number of files (5/10/15/20/25) that can be downloaded simultaneously. The larger this number, the more impact can be put on the repository and network.
- [Authentication token]: An authentication token is required for using repositories. During the first installation of CDM, the authentication token is automatically applied to the local repository. For the remote repository, you can apply the authentication token during the installation of the Remote Repository. Please refer to the appendix for instructions on applying a new token to the repository.





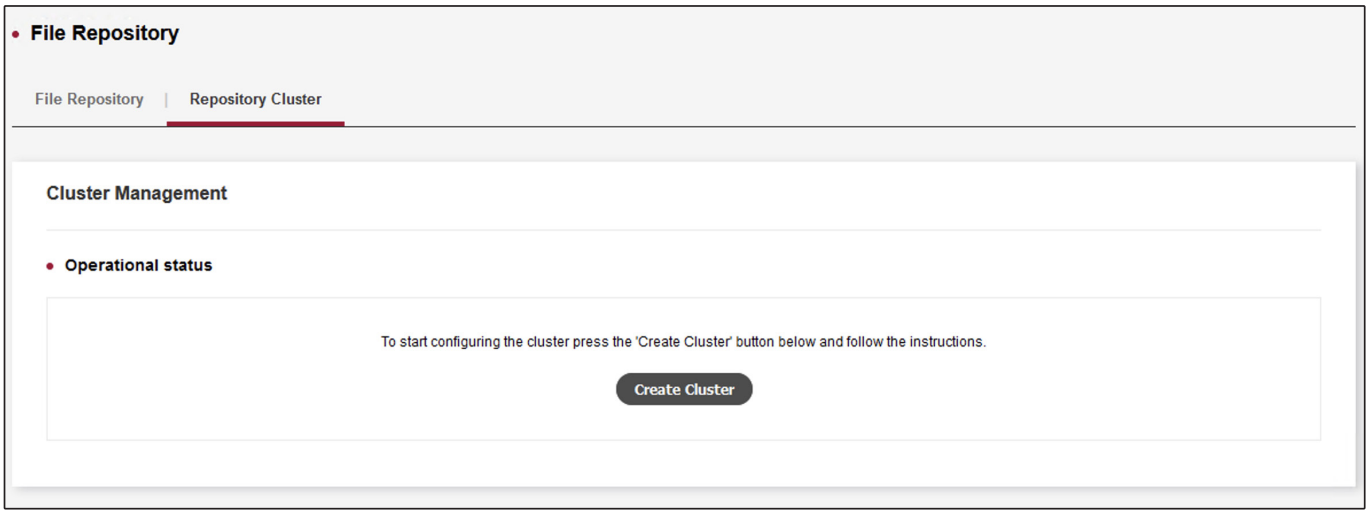
- [File name]: Find the file to upload to the server on the PC you are using.
- [Type]: Check the file type. If the file and file type do not match, you cannot upload the file.
  - [Certificate]: User certificate (.pfx, .p12, .cer, .crt, .pem, etc.), up to 20 MB
  - [Background image]: Photo or image (.png, .x-png, .bmp, .jpg, .jpeg, .pjpg, .pjpeg, .gif), up to 20 MB
  - [Windows Registry]: Windows registry (.reg), up to 20 MB
  - [Configuration]: [Smart Start] settings file (.json), up to 1 MB
  - [Icon]: Icon for shortcuts (ico), up to 1 MB
  - [Application]: application installation files(.exe, .msi), up to 500 MB
- [Note]: Enter a description for the file.
- [Override existing file]: If there is a file with the same name, the file will not be added. Checking these settings will overwrite the same file.

NOTE

- When adding files to the file repository, it is recommended that files be added directly to the built-in/remote file repository server.
- When adding files to the file repository, the patch file is added to the “apps” folder, the cloned images to the “images” folder, and other files to the “data” folder.
- After adding files to the file repository, running [Sync files] in [File Repository] allows you to view the file list in [File Management] and [Cloned Images].

[Repository Cluster]

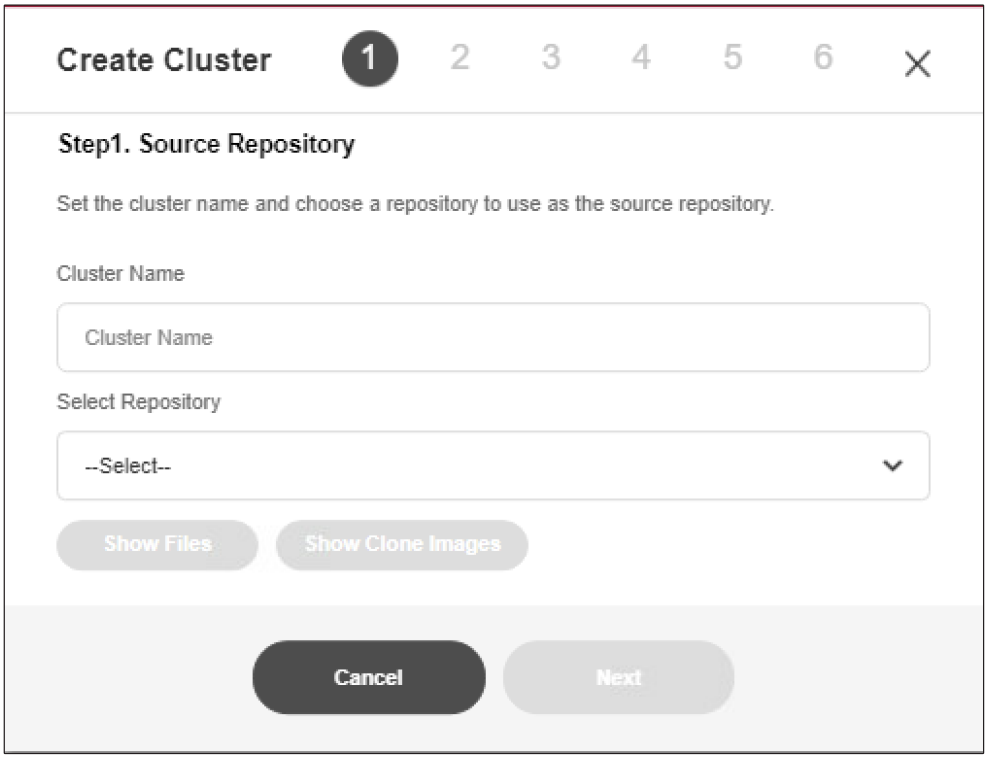
In LG CDM, administrators can create a repository cluster, which is a repository that consists of at least one source repository and one or more repositories that work together and share files simultaneously to perform as a single repository. To create a repository cluster, select [Create Cluster].



[Create Cluster]

Step1. Source Repository

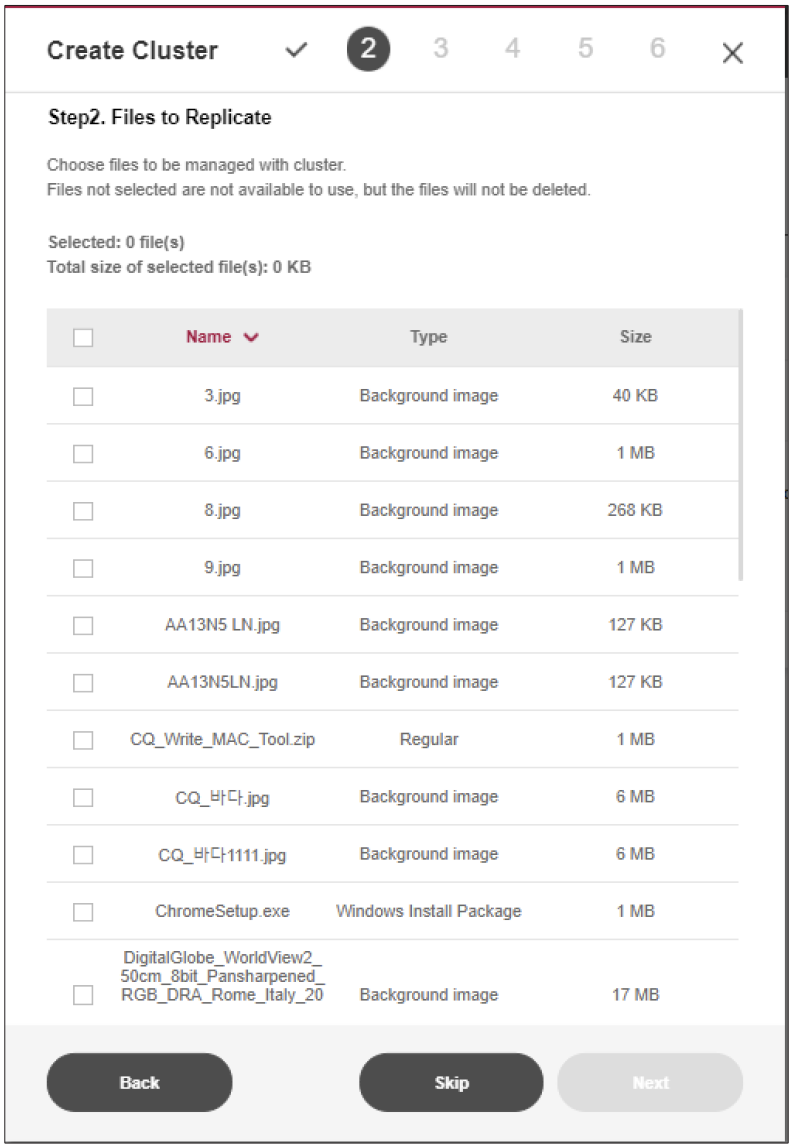
You can select the Source Repository. You can only choose the local repository as a source repository.



- [Cluster Name]: Specify the name of the cluster.
- [Select Repository]: Select the source repository. You can only select the local repository as the source repository.
- [Show Files]: You can check files in the selected source repository.
- [Show Clone Images]: You can check OS images in the selected source repository.

Step 2. Files to Replicate

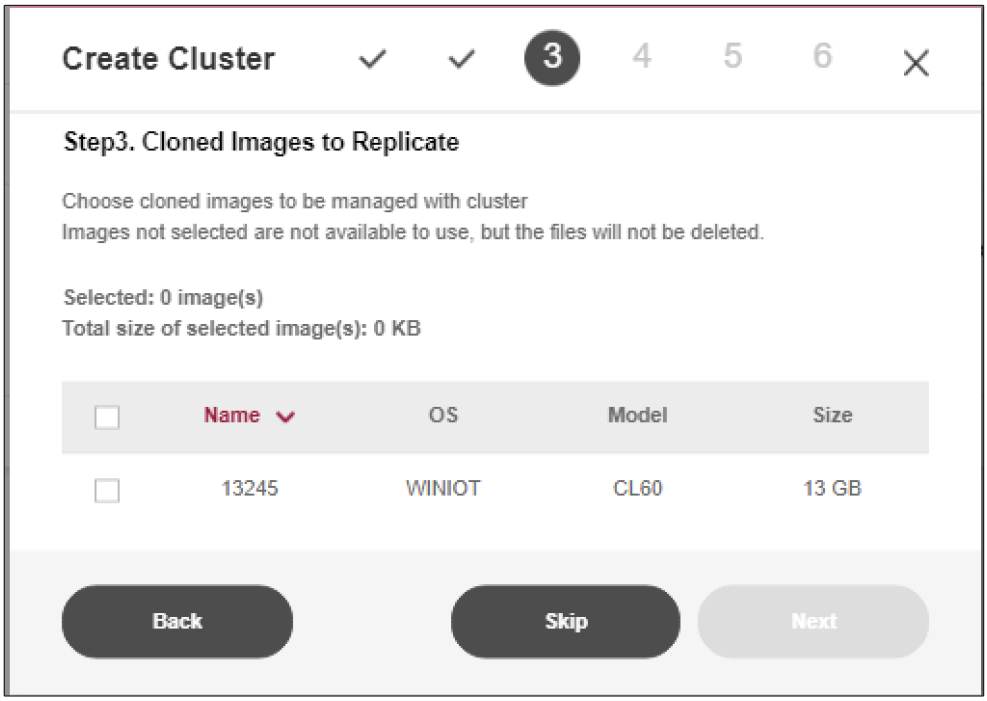
You can choose files from the source repository to be managed by the Repository Cluster.



- [Selected]: Number of selected files.
- [Total size of selected file(s)]: Total size(KB) of selected files
- [Back]: Go back to the previous step
- [Skip]: Skip without selecting files
- [Next]: Go to the next step

Step 3. Cloned Images to Replicate

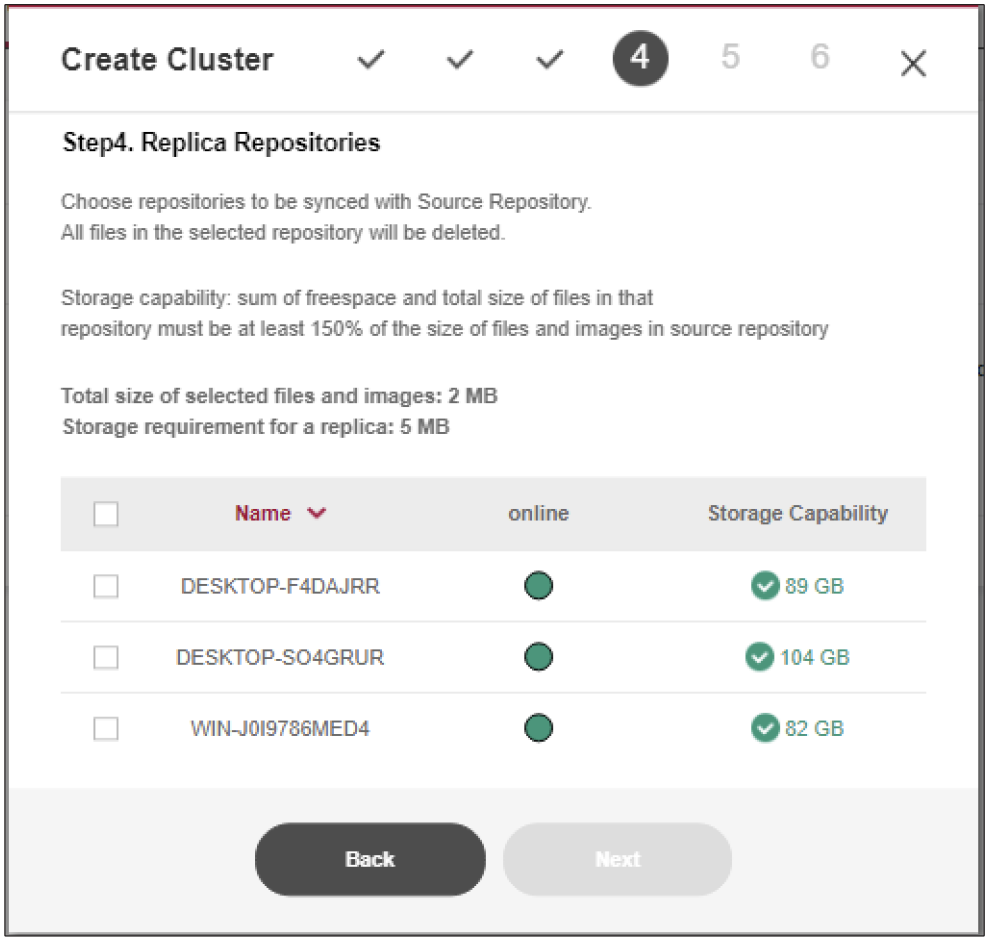
You can choose OS Images from the source repository to be managed by the Repository Cluster.



- [Selected]: Number of selected OS Images.
- [Total size of selected file(s)]: Total size(KB) of selected OS Images
- [Back]: Go back to the previous step
- [Skip]: Skip without selecting OS Images
- [Next]: Go to the next step

Step 4. Replica Repositories

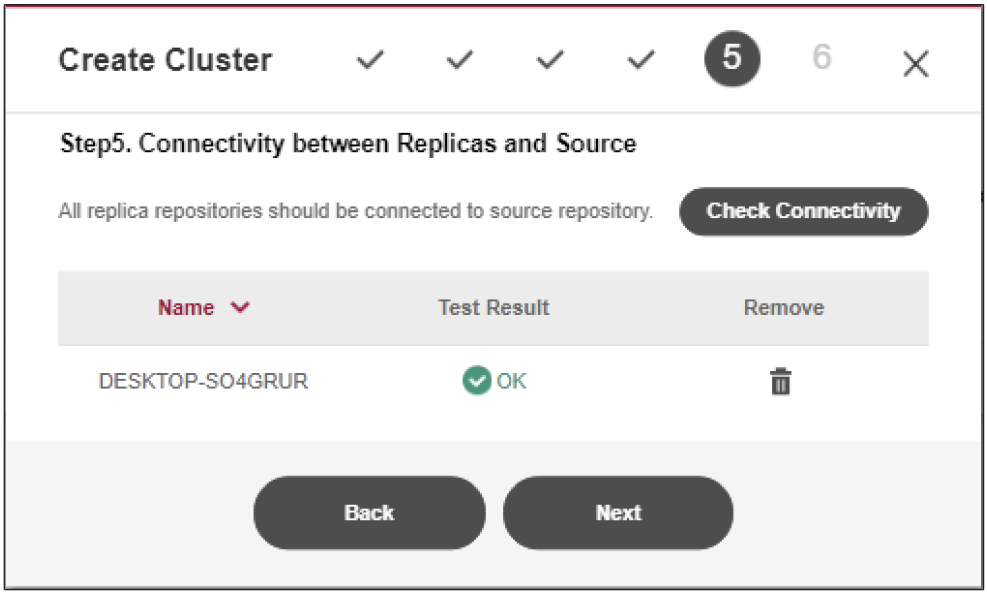
You can select a replica repository to sync with the Source Repository. Please note that you can only choose a replica repository that has enough space and is currently online.



- [Total size of selected files and images]: Shows the total size of files/images.
- [Storage requirement for a replica]: Shows the requirement space of the replica repository to possess.
- [Back]: Go back to the previous step.
- [Next]: Go to the next step.

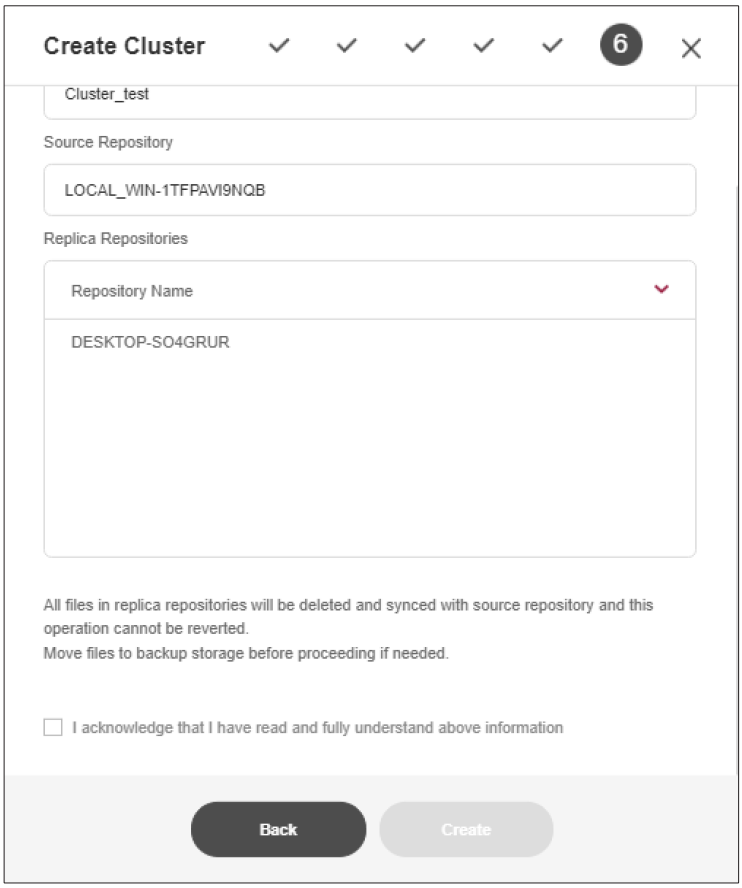
Step 5. Connectivity between Replicas and Source

You can check whether the remote repository is online by clicking the [Check Connectivity] button. If the repository is offline you can remove it by clicking the trashcan icon.



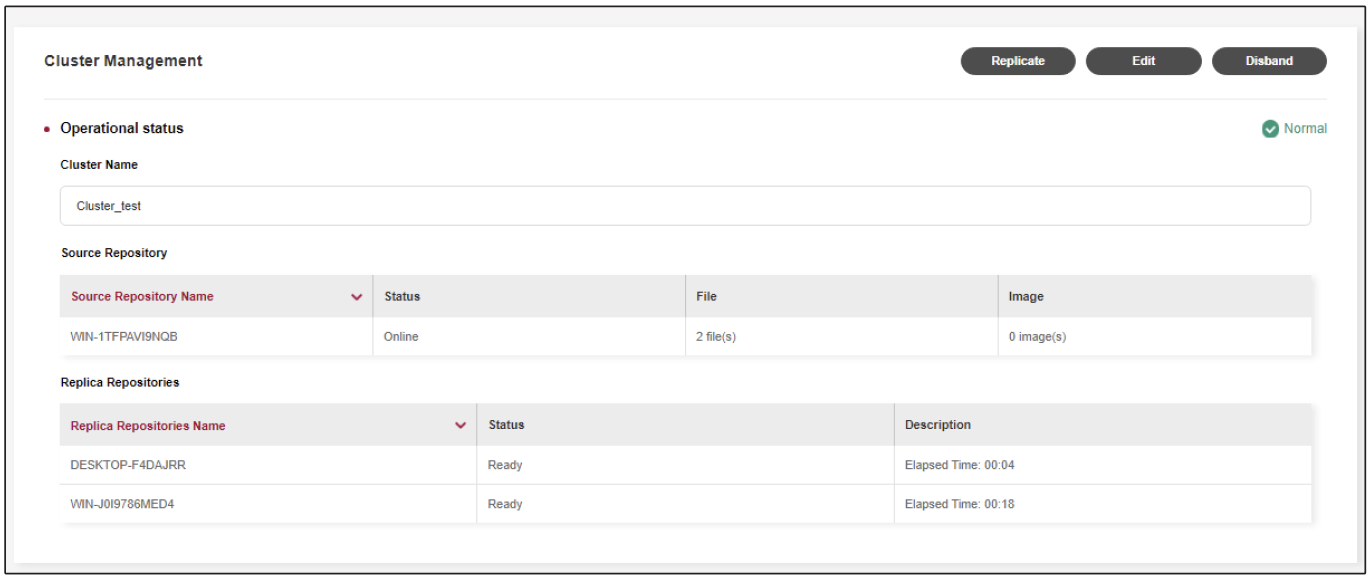
Step 6. Summary

You can double-check the information for the [Cluster Name], [Source Repository] name, and the list of [Replica Repository]s. After verifying this information, you can create the cluster after checking the checkbox next to the "I acknowledge that I have read and fully understand above information" phase.



[Cluster Management]

Manage the Repository Cluster. You can Replicate/Edit/Disband the cluster.



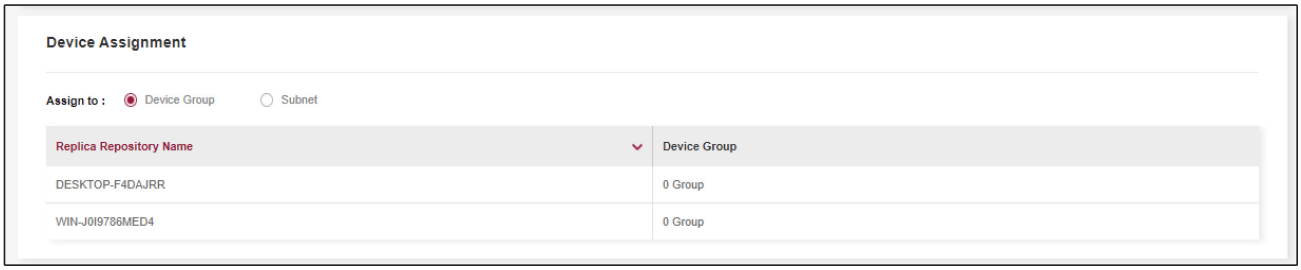
- [Replicate]: When the cluster status becomes 'Warning' due to a sync failure or a file being deleted from the replica repository, you can use the 'Replicate' button to sync the cluster.
- [Edit]: You can add or delete the files/images and also the replica repository using the [Edit] button.
- [Disband]: When you disband the Repository Cluster, all files/images from the cluster will remain in the source repository but will be deleted from the replica repository.
- [Operational status]: Shows the operating status of the Repository Cluster. Status displays in Normal/Error/Warning.
  - [Normal]: Indicates cluster is working flawlessly.
  - [Error]: "Error" status is displayed when the source repository is offline, or when files/images are deleted from the source repository. To restore the cluster to normal status, you can reconfigure the cluster setup through the [Edit] function.
  - [Warning]: Warning status displays when the replica repository is offline or files/images are deleted from the replica repository. You can restore the cluster to normal status by using either the [Replicate] or [Edit] function.
- [Source Repository]: Displays the information of the source repository.
  - [Source Repository Name]: Displays the name of the source repository.
  - [Status]: Displays whether the repository is online/offline.
  - [File]: Displays the number of files in the source repository.
  - [Image]: Displays the number of images in the source repository.
- [Replica Repositories]: Displays the information of replica repositories.
  - [Replica Repositories Name]: Displays the name of replica repositories.
  - [Status]: Displays whether the repository is online/offline.

[Device Assignment]

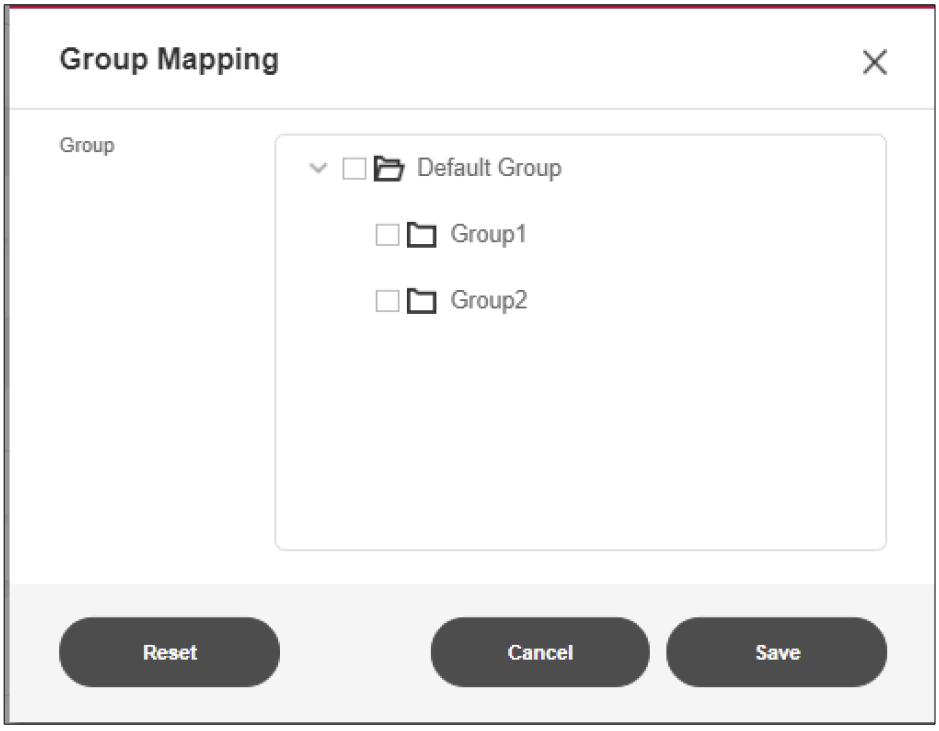
You can deploy files by assigning a priority repository to devices. If the Repository Cluster fails to deploy the file through the priority repository, files will be deployed through the source repository. You can choose between [Device Group] and [Subnet] to assign devices to the priority repository.

[Device Group]

You can assign the device(s) to the priority repository by Device Group.



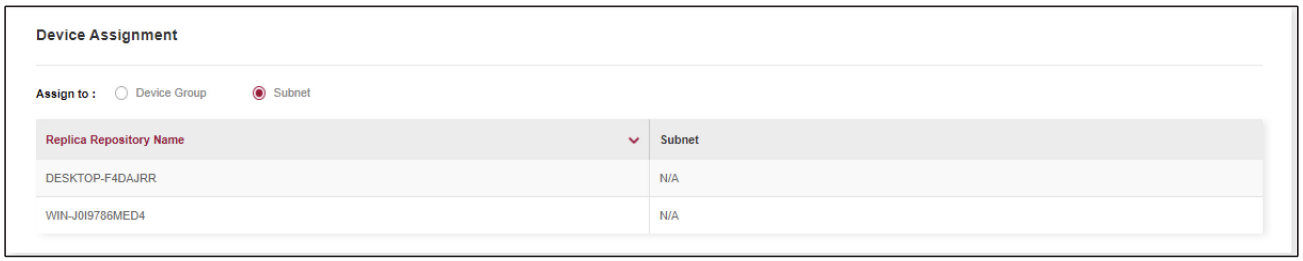
From the [Device Group] column, click “0 Group” to assign the Device Group.



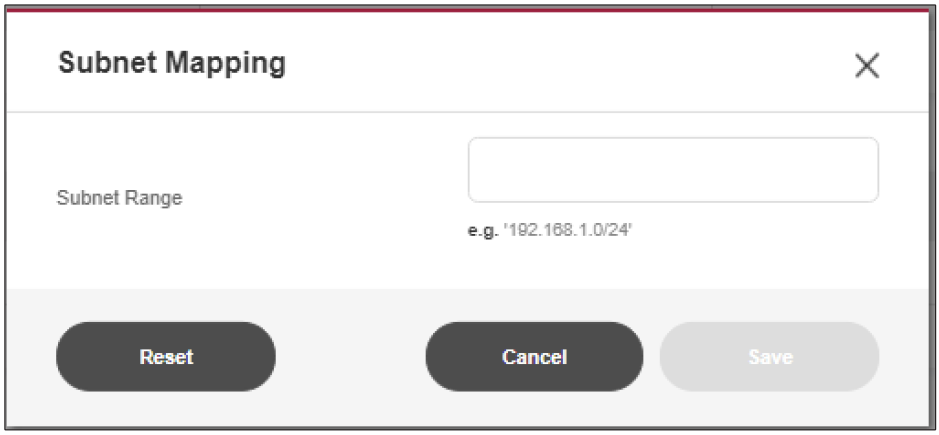
Check the Device Group to be assigned.

[Subnet]

You can assign the device(s) to the priority repository by subnet range.



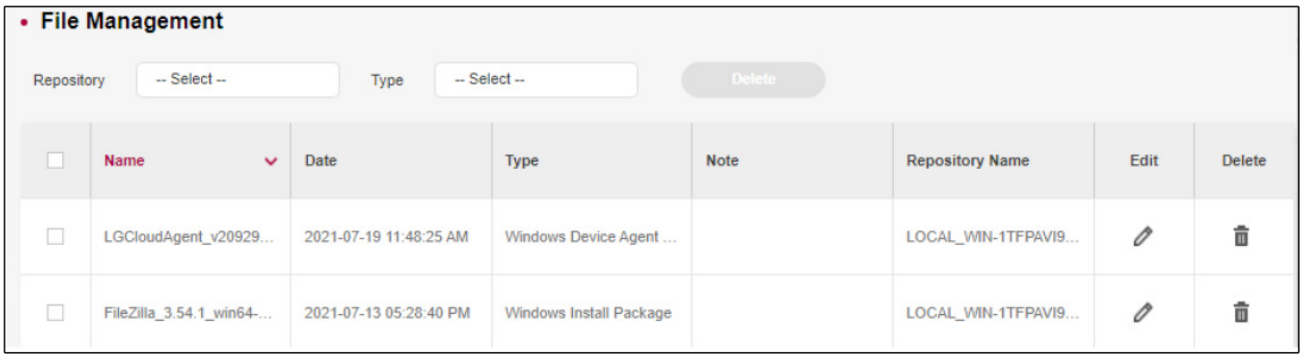
From the [Subnet] column, click “N/A” to assign the device by subnet range.



Set the subnet range to be assigned.

[File Management]

Displays a list of files used in LG CDM and you can delete them.
You can sort the file list by using [Repository] and [Type] filter.

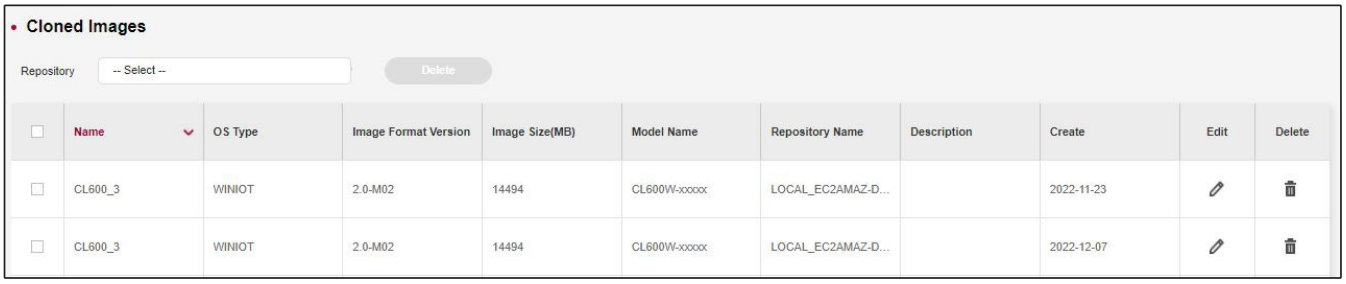


[Delete]

If you no longer want to manage the files in the File Repository in LG CDM, you can delete them using the delete icon and button.

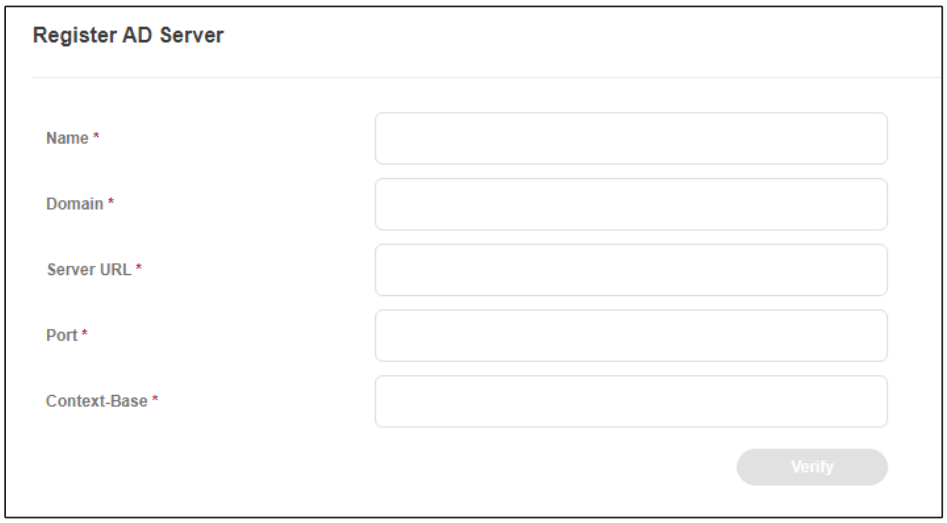
[Cloned Images]

Manages cloned images.
You can sort the file list by using [Repository] filter.



[Active Directory]

You need to register with the AD server to manage AD accounts as users of LG CDM.



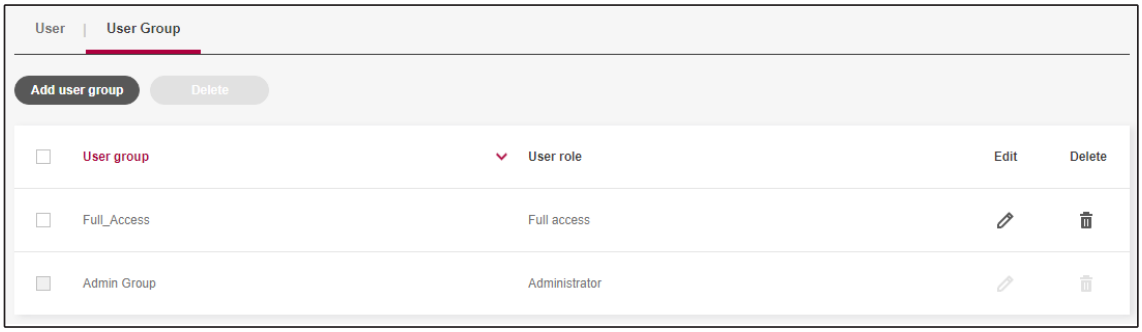
- [Name]: Enter the name of the AD server to be registered.
- [Domain]: Enter the domain of the AD server to be registered.
- [Server URL]: Enter the AD server URL that is in the form of “ldap://”.
- [Port]: Enter the port of the AD server.
- [Context Base]: Enter the type of AD account to be used in LG CDM.

[User]

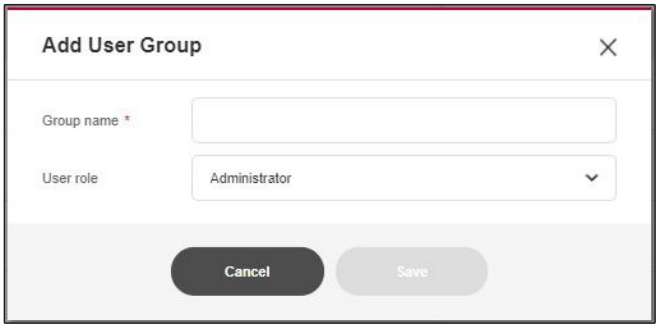
Set up an administrator account for LG CDM. Create user groups and users to manage the users.

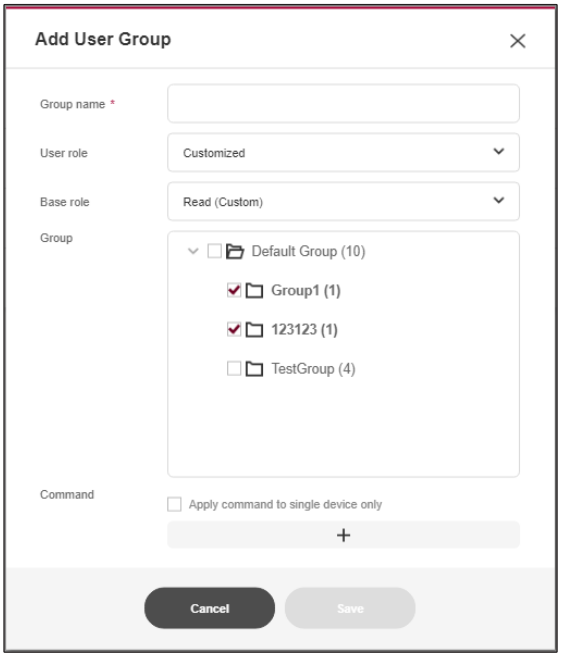
[User group]

You can create and manage user groups. The privileges of the administrator account are [Administrator], [Full access], [Read], [No access], and [Customized].



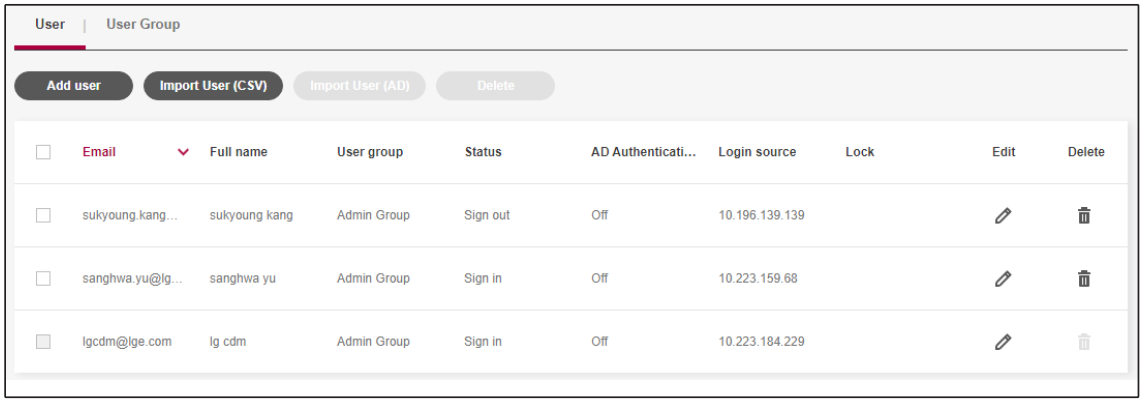
- [Administrator] group has authority over the [Administration Settings] (⚙) menu and has no restrictions on the setting and use of LG CDM.
- [Full access] group cannot access the [Administration Settings] (⚙) menu but has no restrictions on the setting and use of LG CDM.
- [Read] has no authority to change settings, and can only check the setting values.
- [No access] is used to create an account that cannot sign in, without deleting the account.
- [Customized] group does not have permission to access the [Administration Settings] (⚙) menu, and the settings and usage restrictions of LG CDM follow the [Base role]. Additionally, you can set individual access permissions for each device group and execution permissions for each command.
  - A group with a [Full access (custom)] base role has no restrictions on the settings and usage of LG CDM. However, the group cannot execute commands for which permissions have been excluded through the [Command] menu.
  - A group with a [Read (custom)] base role cannot change LG CDM settings but can view the settings values. The group can execute commands that have been granted permissions through the [Command] menu.
  - If you select [Read (custom)] for [Base role],the checkbox for [Apply command to single device only] will appear. When the checkbox is selected, you cannot apply a command to group or multiple devices. It can only be applied to a single device.

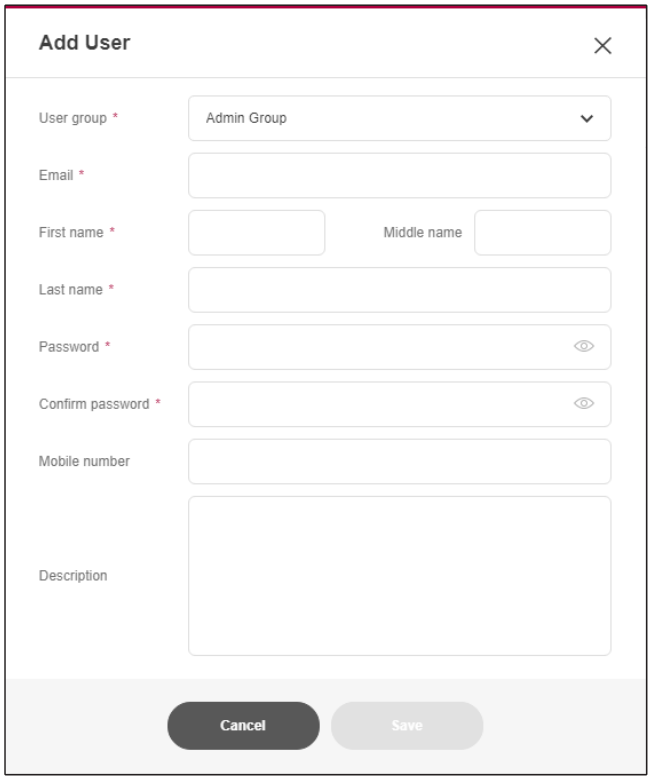




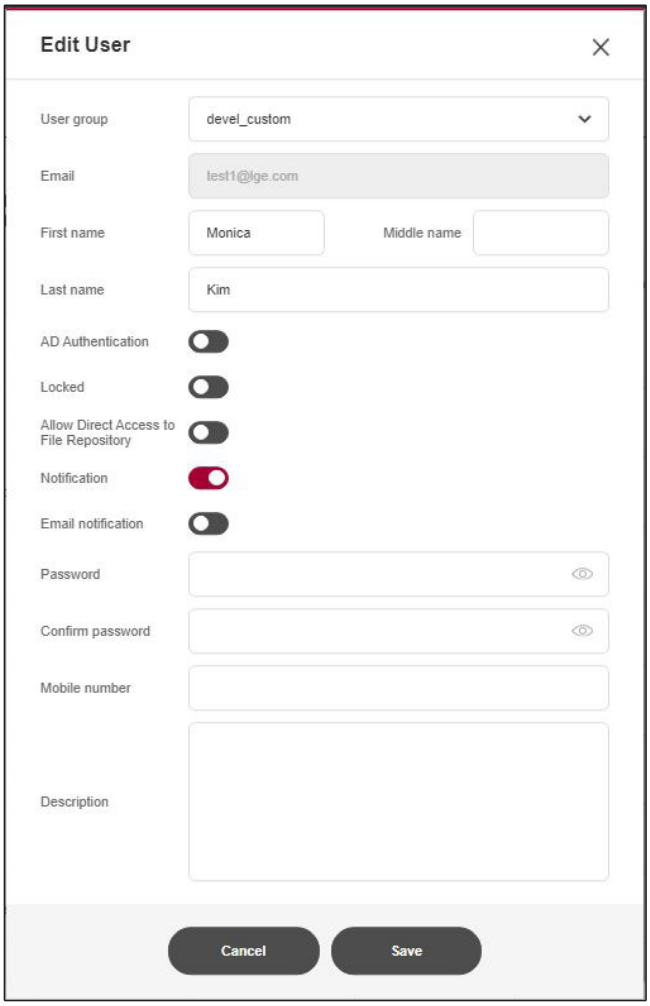
[User]

It manages user accounts of LG CDM. You can add, edit, and delete users. Adding users supports adding individual users, adding multiple users through CSV files, and adding AD accounts. Adding AD accounts is enabled only after registration with the AD server.





In addition, you can edit user information, and configure detailed settings for [AD authentication], [Lockout], [Allow direct access to file repository], [Notifications], and [Email notifications].



You can also delete accounts. But you cannot delete your own account that has been logged in.

[Reports]

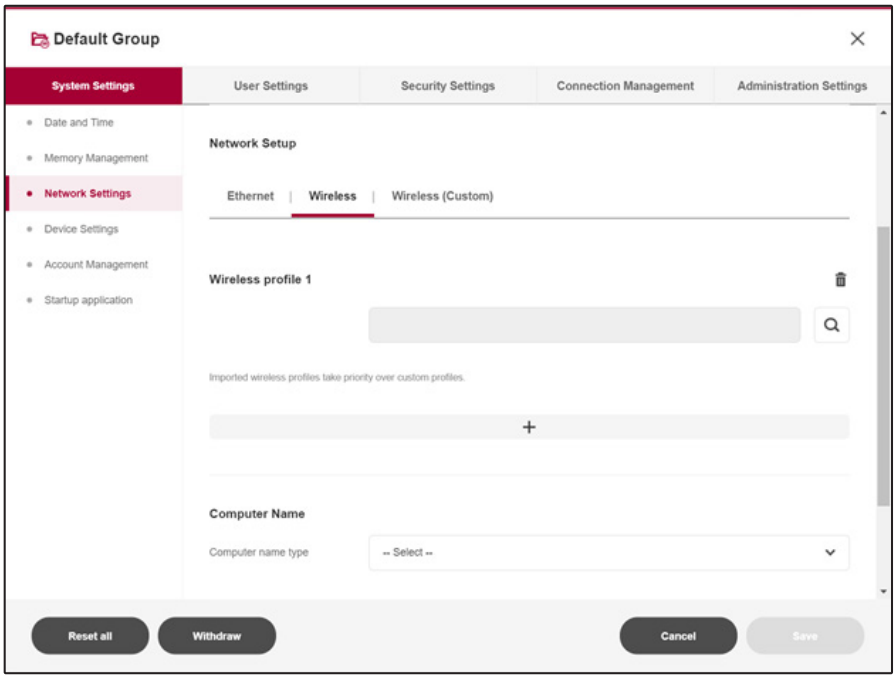
It provides the ability to check the usage history of LG CDM by creating a CSV file.
Select [Type] of the report and specify [Group]. You can specify [Period] if necessary.
If [All Devices], [New Devices], [No Check-in], [Write filter off], or [Compliance status conflict] are selected in [Type], then [Period] cannot be set because the report is about the device status.
When created, the item will appear in the list. If the file is large, it may not be displayed immediately or it may appear as a temporary file, so please click the [Refresh] button at the top.

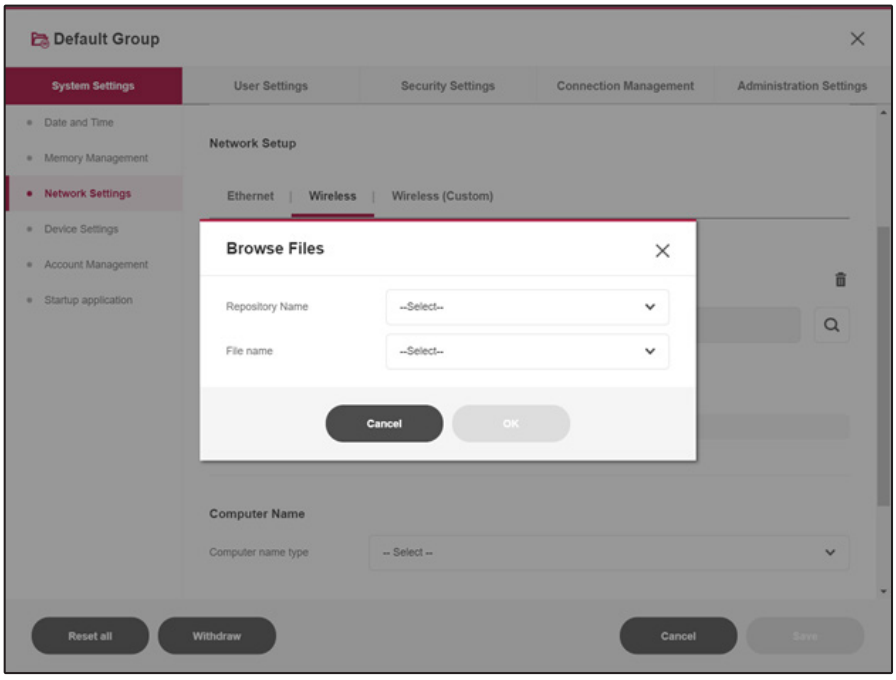
13. Refer to the port

Target	Module	Direction	Protocol	Port number
Server	LG CDM	In-bound	TCP	443
	Message Broker	In-bound	TCP	5672
	VNC Relay	In-bound	TCP	55901
Device	VNC	In-bound	TCP	5900
	-	In-bound	TCP	6900
	-	In-bound	UDP	53615

Appendix A: How to use the Wireless Profile Export Tool

The wireless profile files, extracted from the devices using Wireless Profile Export Tool, can be imported and applied as a configuration. Such imported wireless profile have higher priority than custom profiles.





You can browse repositories and select .cdff files that you want to import to the configuration.

Exporting Wifi profile from device

[Windows]

1.Run “wireless_export_to_cdff.ps1” script in command prompt:

a. To export all Wifi profile:

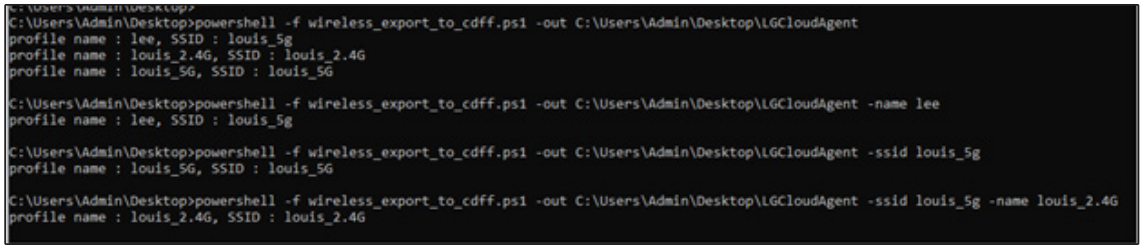
> powershell -f wireless_export_to_cdff.ps1 -out [target directory]

b. To export Wifi profile by SSID:

> powershell -f wireless_export_to_cdff.ps1 -out [target directory] -ssid [profile ssid]

c. To export Wifi profile by name:

> powershell -f wireless_export_to_cdff.ps1 -out [target directory] -name [profile name]



[Linux]

Usage: ./export_wireless_profile [option] ...

options:

-a, --all: Create all wireless profile

-s, --ssid: SSID name

-c, --connection_name: connection name

-o, --outpath: created out directory // Mandatory

1. Run Terminal in “export_wireless_profile” directory:

a. To export all Wifi profile:

> ./export_wireless_profile -a -o [target directory]

b. To export Wifi profile by SSID:

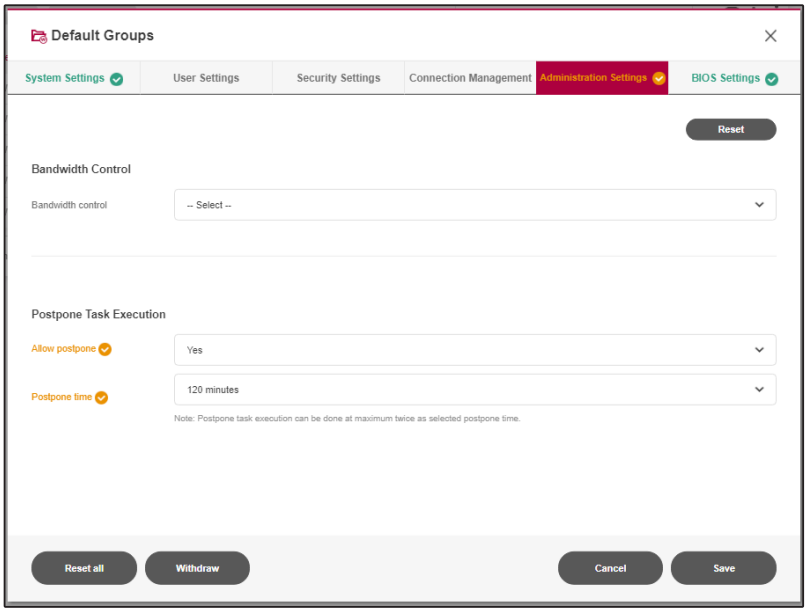
>./export_wireless_profile -s [profile ssid] -o [target directory]

c. To export Wifi profile by name:

> ./export_wireless_profile -c [connection name] -o [target directory]

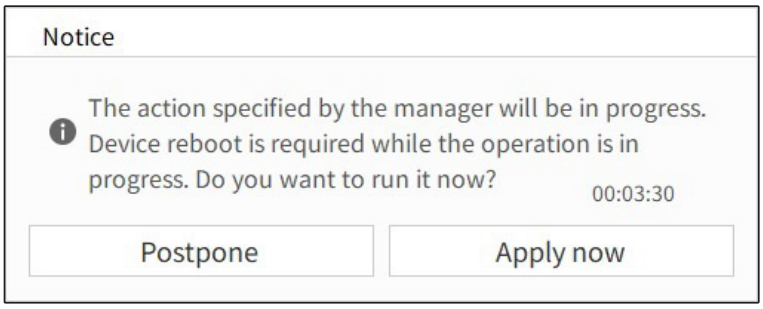
Appendix B: Postpone task execution on devices

After entering the license key, you can use [Administration Settings] tab in [Configuration].
In [Postpone Task Execution] menu of [Administration Settings] tab, you can set [Allow postpone] and [Postpone time] of postpone task execution.

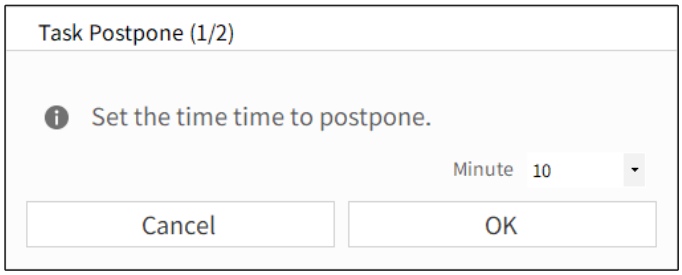


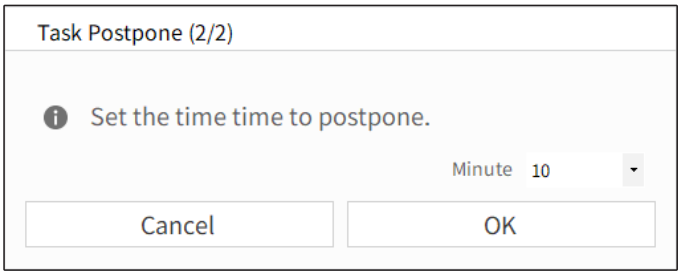
By enabling the [Allow postpone] option, device users will be able to choose to postpone the execution of certain LG CDM commands listed below:
- Move Group / Move Device
- Apply Template
- Lock Computer
- Restart
- Shutdown
- Logoff
- File Transfer
- File Delete
- SW & Patch Install / SW & Patch Uninstall
- Clone Image / Deploy Image
- Apply Registry
- Application Command
- Update Agent

When one of the above commands is executed, Cloud agent installed on devices causes a pop-up where you can choose to postpone or immediately execute the task.



If the device user selects “Apply now”, the command is executed immediately.
If the device user selects “Postpone”, another pop-up to set the postpone time occurs, and the task can be postponed up to 2 times within [postpone time] set in CDM Configuration settings.





Devices that have postponed task execution can be viewed in dashboard of Device Manager or Devices menu.

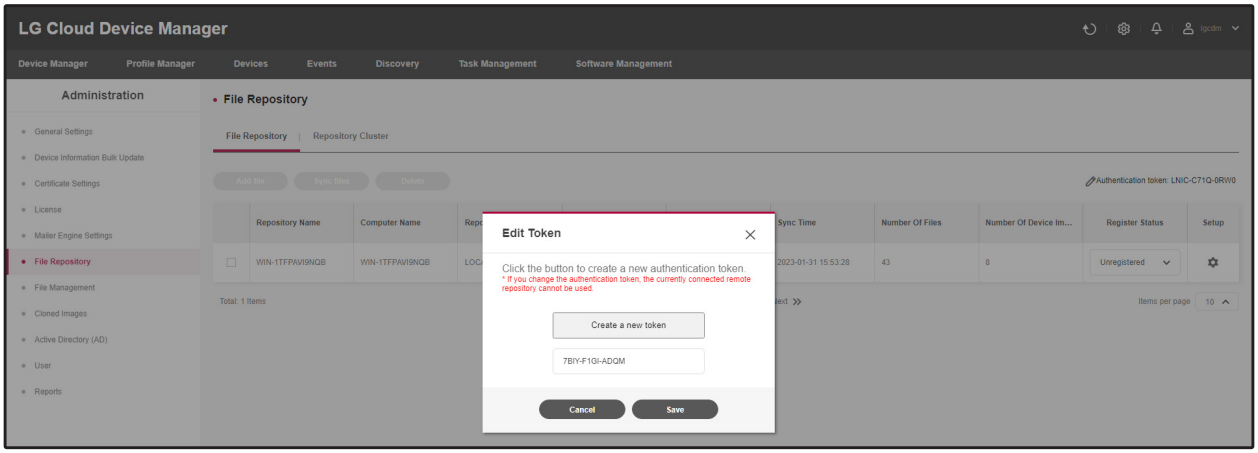
Appendix C: How to set up a new authentication token to reuse the file repository

The CDM server uses authentication tokens to verify the file repository.
If for any reason the authentication token of the CDM server is changed, the file repositories are no longer available.
How to set up a new authentication token to reuse the file repository is described below.

If you have already changed the authentication token, proceed from Step 2.

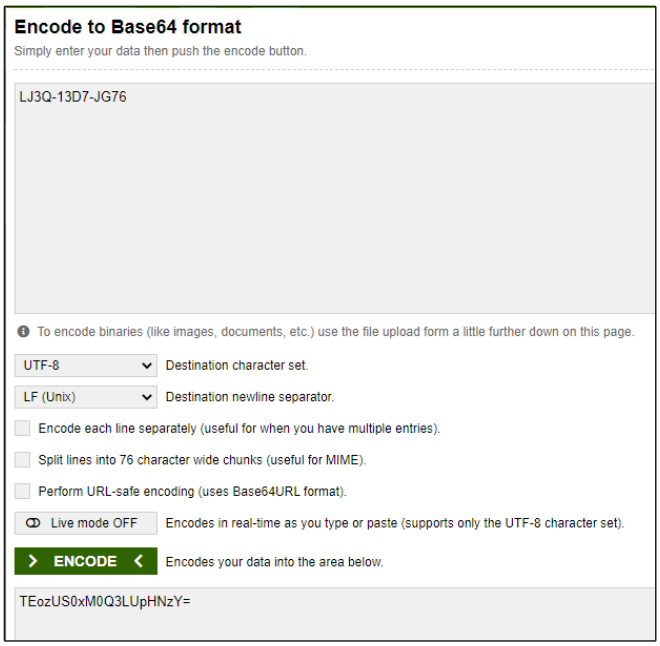
Step 1. Regenerate a [Authentication token].

1) Go to [Administration Settings] → [File Repository].
2) Click the [Edit] button.
3) Click [Create a new token] in the [Edit Token] pop-up, and click [Save].
※ A license key is required to change the authentication token.



Step 2. Encode the generated token.

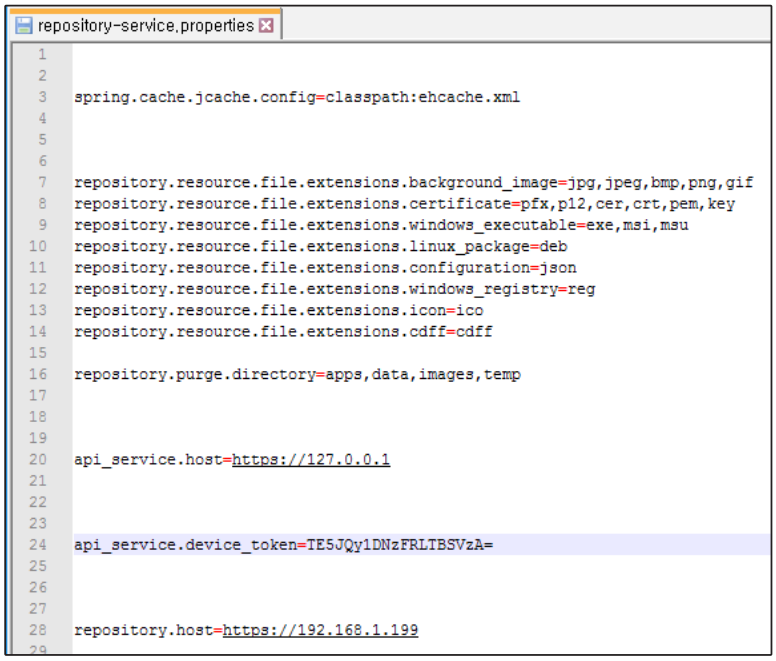
1) Access the token encoding website. (*https://www.base64encode.org/*)
2) Enter a new token.
3) Click [Encode].
4) Check the encoded token value.



Step 3. Apply the encoded token to the configuration file of the file repository.

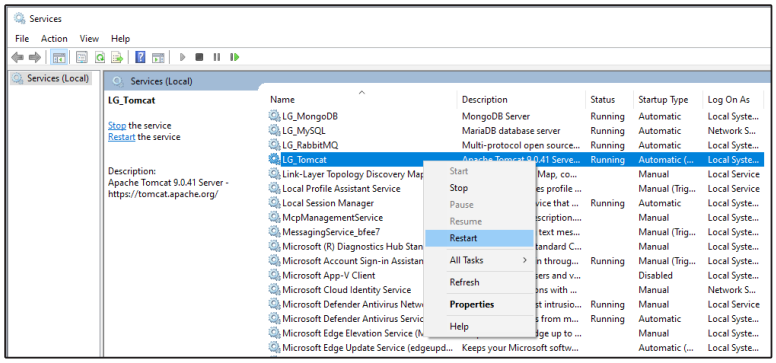
1) Go to the CDM installation path.
   The default installation path is “C:₩Program Files₩LG CDM₩”.
2) Open the <Install Path>₩conf₩service₩repository-service.properties file with an editor.
3) Enter the new encoded token to api_service.device_token and then save.

※ If there is a remote file repository, proceed the same steps 1) to 3) on that machine.



Step 4. Restart the file repository service.

1) Go to Service. (Win+R, services.msc)
2) Restart the LG_Tomcat.

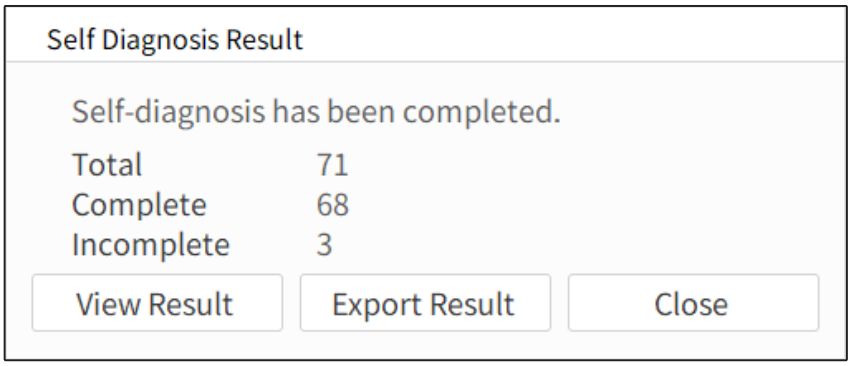


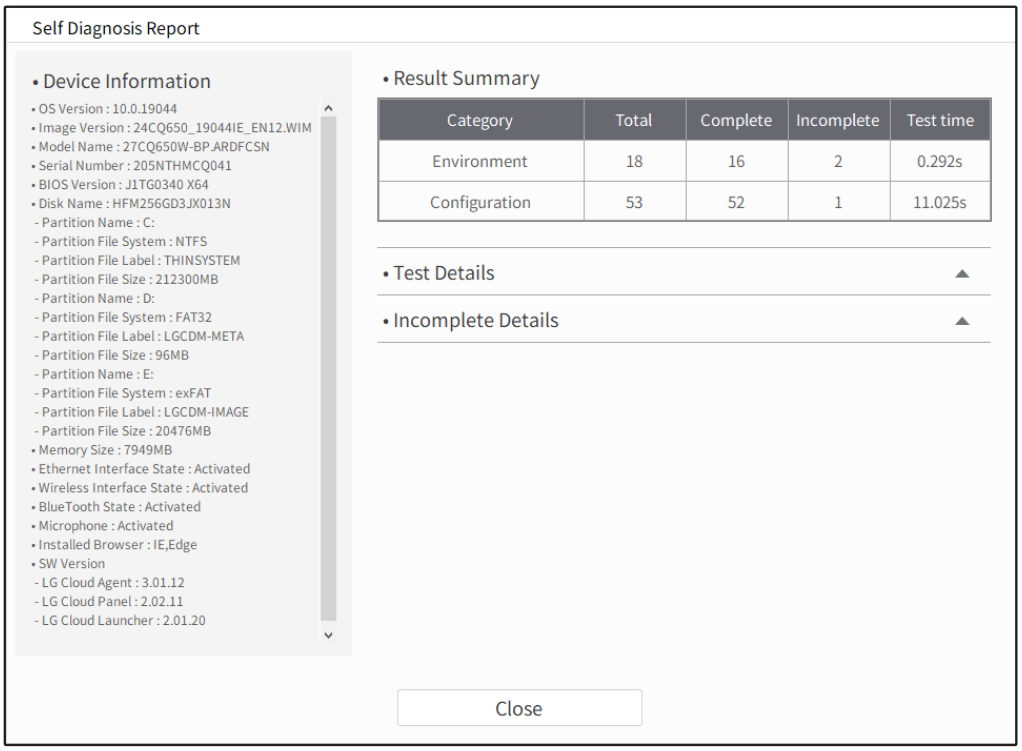
Appendix D: Server-less Self-diagnosis of LG Cloud Agent

LG Cloud Agent's server-less self-diagnosis verifies the operating environment of the agent and reports the result.
Mainly tests [Configuration] items. A network connection must be established, but CDM server connection is not essential. (Agent can be performed alone)
It doesn't do anything that requires a file download. (certificate setting, wallpaper setting, etc.)

How to perform self-diagnosis

1) Right-click the Cloud Agent icon in the device system tray, and run Self-Diagnosis.
2) Enter Admin account and its password.
3) Start Self-Diagnosis (Do not turn off the power or input keyboard/mouse during diagnosis).
4) Check Self-Diagnosis result. (View Result)
5) Create Self-Diagnosis report (Export Result)





Appendix E : How to use WebDAV client for access the file repository

Introducing WebDAV.

Web Distributed Authoring and Versioning (WebDAV) is an extension of the Hypertext Transfer Protocol (HTTP) that allow collaboration between users in editing and managing documents and files stored on web servers.

Introducing WinSCP (WebDAV client).

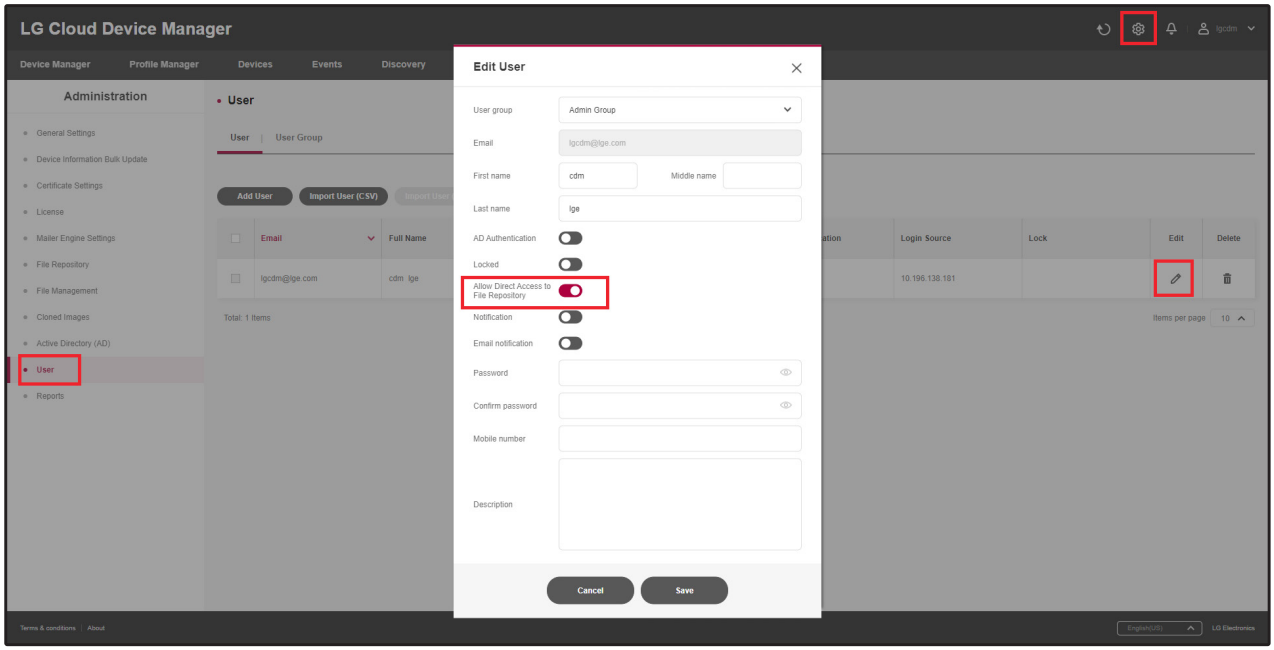
WinSCP is an open source free SFTP client, FTP client, WebDAV client, S3 client and SCP client for Windows. Its main function is file transfer between a local and a remote computer. Beyond this, WinSCP offers scripting and basic file manager functionality.

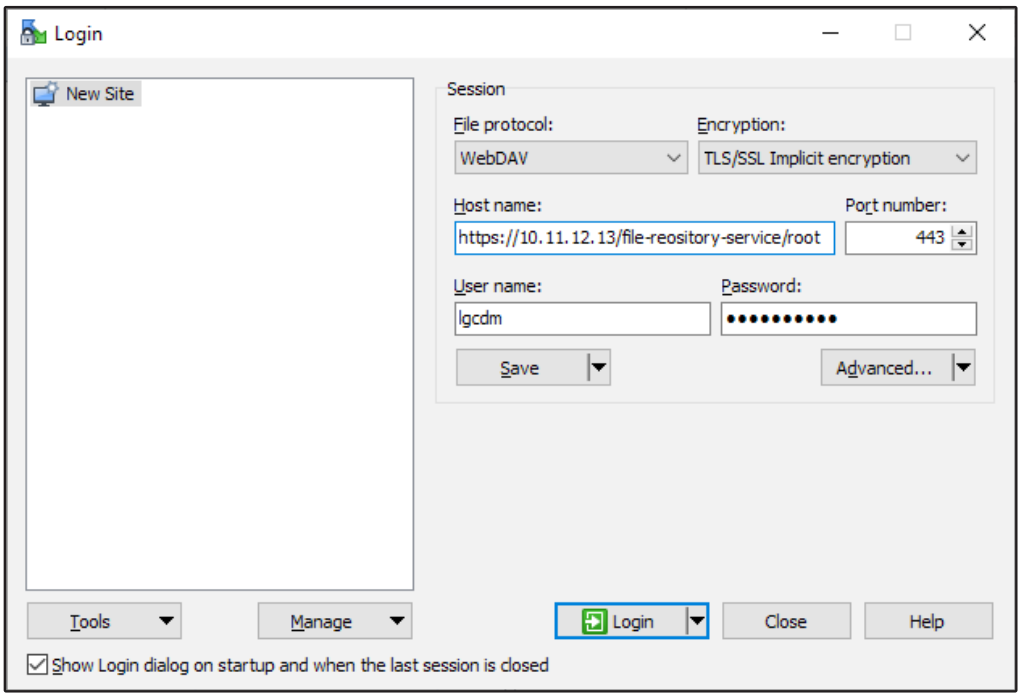
WinSCP Download and Install.

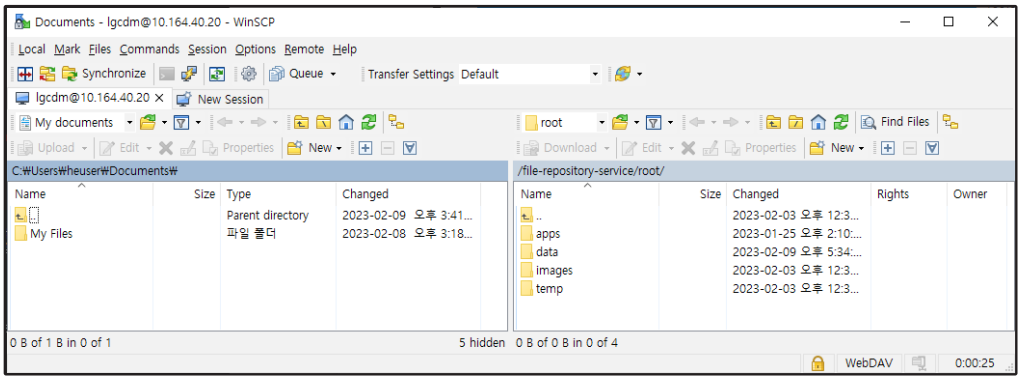
https://winscp.net/eng/download.php

How to use.

1) Move to Administration > User > Edit User.
2) Enable “Allow Direct Access to File Repository”.
3) Run WinSCP and login.
   A. Protocol: WebDAV
   B. Host name: *https://{repository_server_IP}/file-repository-service/root*
   C. User name: Admin account (ex:lgcdm)
   D. Password: CDM password of admin account
4) Upload files to use (move file from left panel to right panel).
5) Administration > File Repository > [Sync files] click, then the file can be available




Login
New Site
Session
File protocol:
WebDAV
Encryption:
TLS/SSL Implicit encryption
Host name:
https://10.11.12.13/file-reository-service/root
Port number:
443
User name:
lgcdm
Password:
Save
Advanced...
Tools
Manage
Login
Close
Help
Show Login dialog on startup and when the last session is closed


Documents - lgcdm@10.164.40.20 - WinSCP
Local Mark Files Commands Session Options Remote Help
Synchronize
Queue
Transfer Settings Default
lgcdm@10.164.40.20
New Session
My documents
Upload
Edit
Properties
New
root
Download
Find Files
C:\Users\heuser\Documents\
/file-repository-service/root/
Name
Size
Type
Changed
Rights
Owner
Parent directory
My Files
파일 폴더
apps
data
images
temp
0 B of 1 B in 0 of 1
5 hidden
0 B of 0 B in 0 of 4
WebDAV
0:00:25

Appendix F: LG CDM Update Troubleshooting Guide

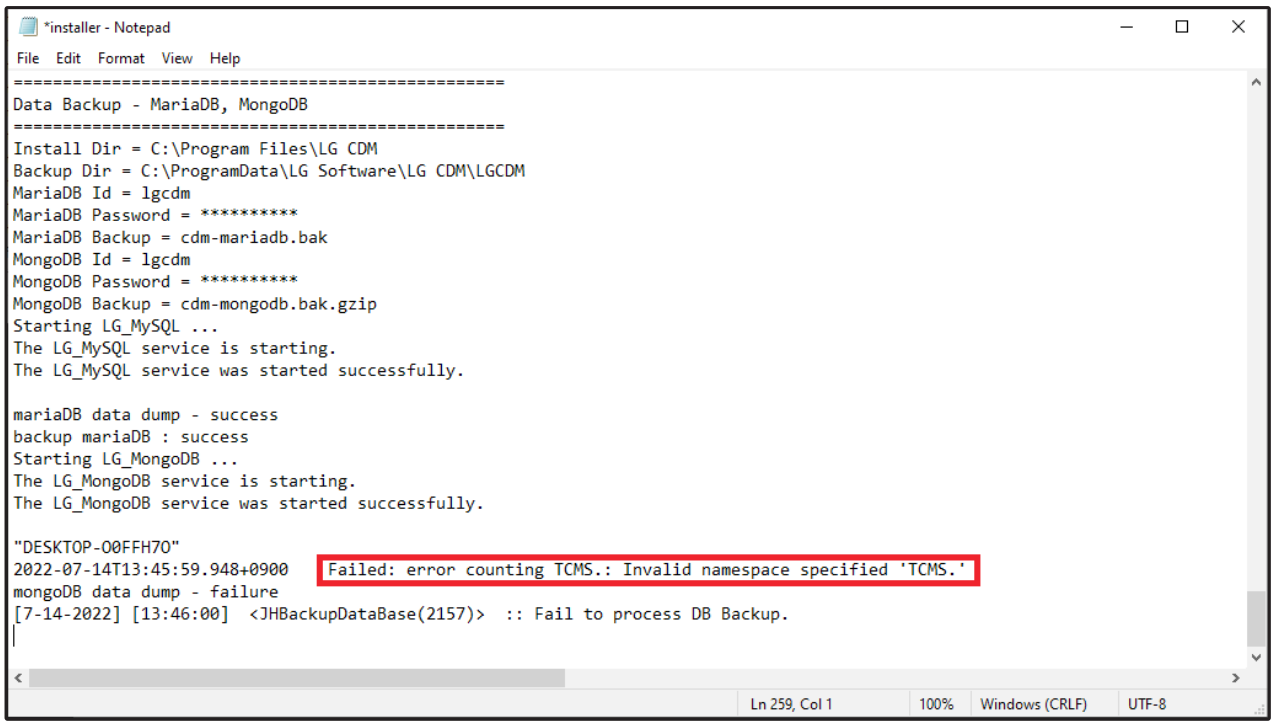
This guide lists common problems faced during the update and a way to solve them.

1. Fail to process DB Backup.

Generally, this error occurs when MongoDB is empty or has no necessary schema for backup. This can be solved by saving one or more apps in LG CDM > [Software Management]. When you click [OK] on the prompt, the installer will terminates as it is considered a critical failure. Please follow the steps below after installer is terminated.

i. Find "Invalid namespace specified 'TCMS.'" log in installer.log located in LG CDM installation directory. (See the figure below)

- Default LG CDM installation directory: C:₩Program Files₩LG CDM₩



ii. Restart following LG CDM services:

- LG_MongoDB
- LG_MySQL
- LG_RabbitMQ
- LG_Tomcat

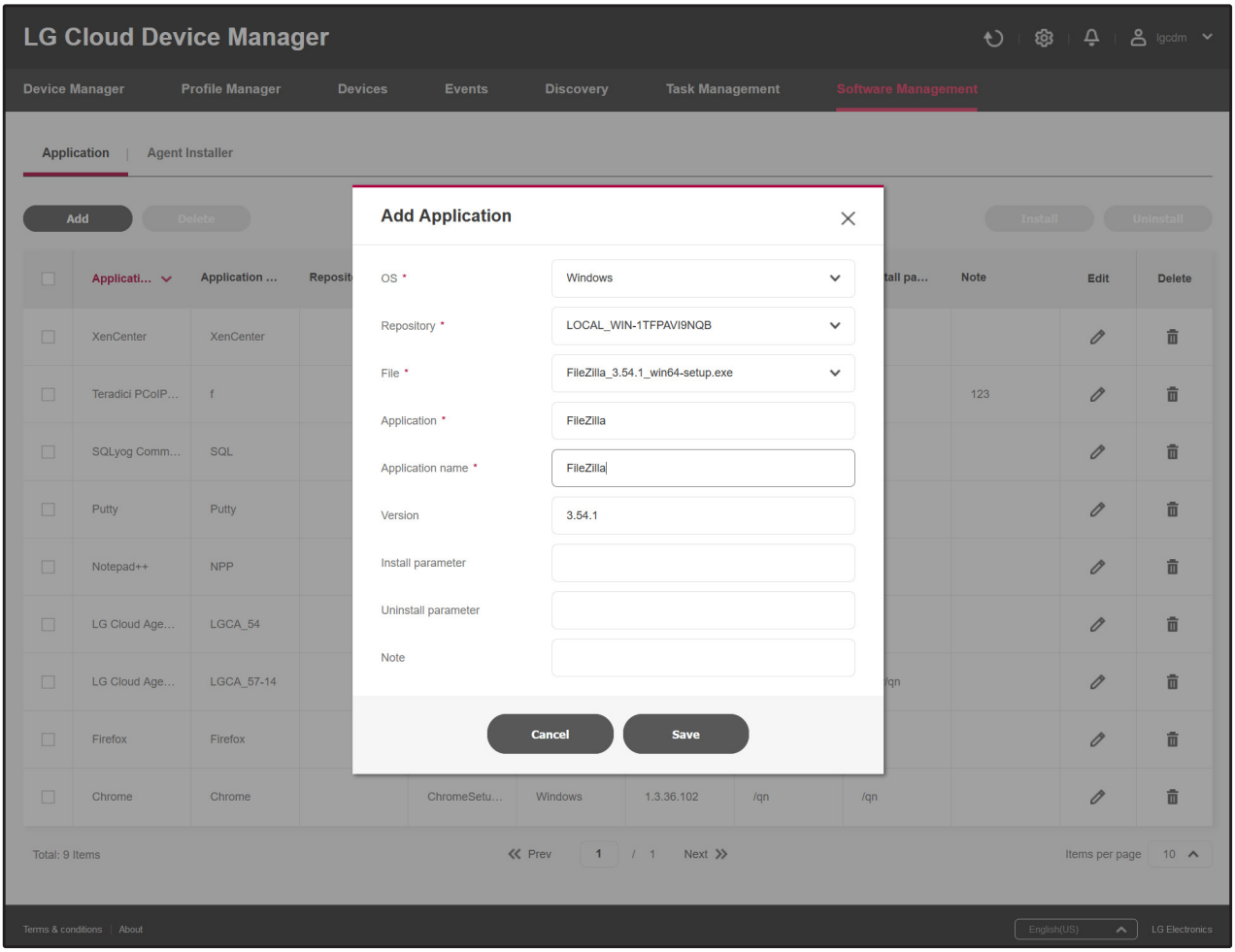
iii. Put one or more apps (*.exe) in %LG CDM File Repository%₩apps₩ directory.

- Default LG CDM Repository directory: C:₩LG CDM File Repository₩.

iv. Log in LG CDM > Administration Settings > File Repository > Select the local repository and click Sync files.

v. Go to Software Management > Application > Add > Add the app(s) that you put the local repository %LG CDM File Repository%₩apps₩ directory in (iii). (See the figure below)

vi. Run CDM 3.1 installer executable to retry LG CDM Update.



2. RabbitMQ, MySQL, MongoDB setup config Failed.

In this case, the LG CDM Update will fail and the installer will proceed to revert the process. After the reversion is completed, the remaining files and registry keys should be completely deleted by further proceeding the followings.

i. Windows Registry Editor > Delete the key:
HKEY_LOCAL_MACHINE₩SOFTWARE₩Ericsson₩Erlang₩ErlSrv₩1.1₩LG_RabbitMQ

ii. Windows Resource Monitor > kill empd.exe process if exists.

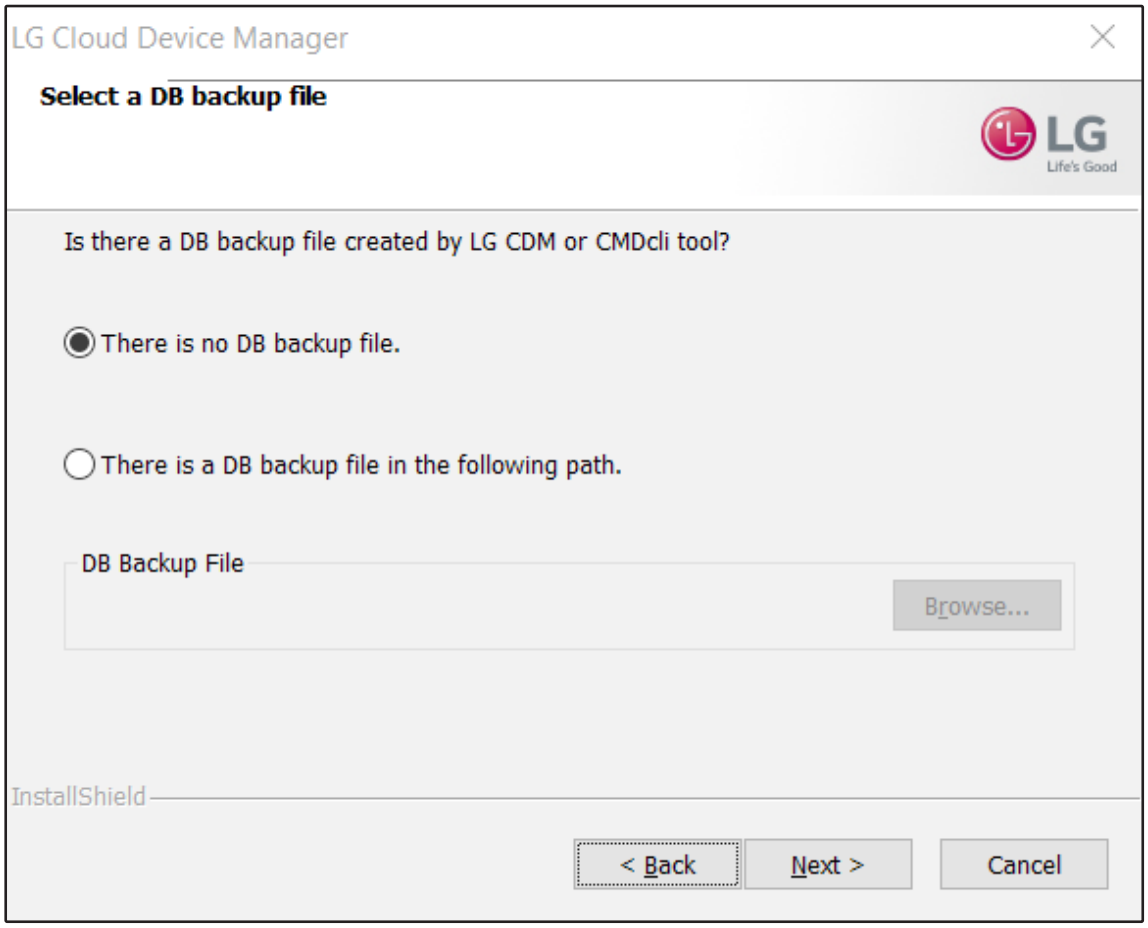
iii. Stop & delete all LG CDM services listed previously.

- E.g., Windows CMD > sc stop LG_MongoDB | sc delete LG_MongoDB

iv. Run old installer executable to remove old LG CDM from the system completely.

v. Once the old LG CDM is removed, run new LG CDM 3.1 installer executable to proceed fresh installation. During the installation process, you can choose [There is a DB backup file in the following path] and locate the database backup file in [Select a DB backup file] installation page to restore the database while installing the new LG CDM. (See the figure below)

- Default DB Backup file directory: C:₩ProgramData₩LG Software₩LG CDM₩LGCDM₩

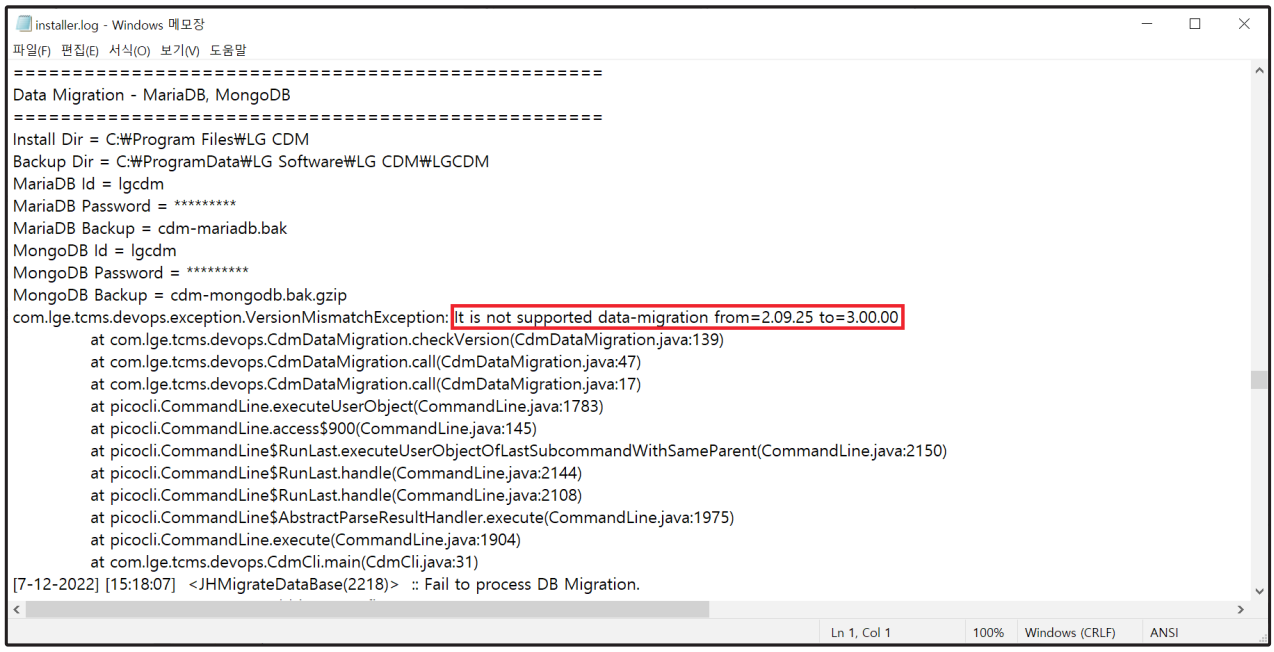


3. Could not restore Database from the backup...

This error occurs when the new (currently installing) LG CDM attempts to restore the database from a backup file of incompatible LG CDM version. Press [OK] to continue installing the new LG CDM without restoring database.

i. Find VersionMismatchException log from LG CDM installer.log (See the figure below)

- Default LG CDM installation directory: C:₩Program Files₩LG CDM
- Find from=<DB Backup File Version> to=<New LG CDM Installer Version>. See the Installer Update Support Table above.



4. Installer couldn't confirm either port 443 or 5672 are listening.

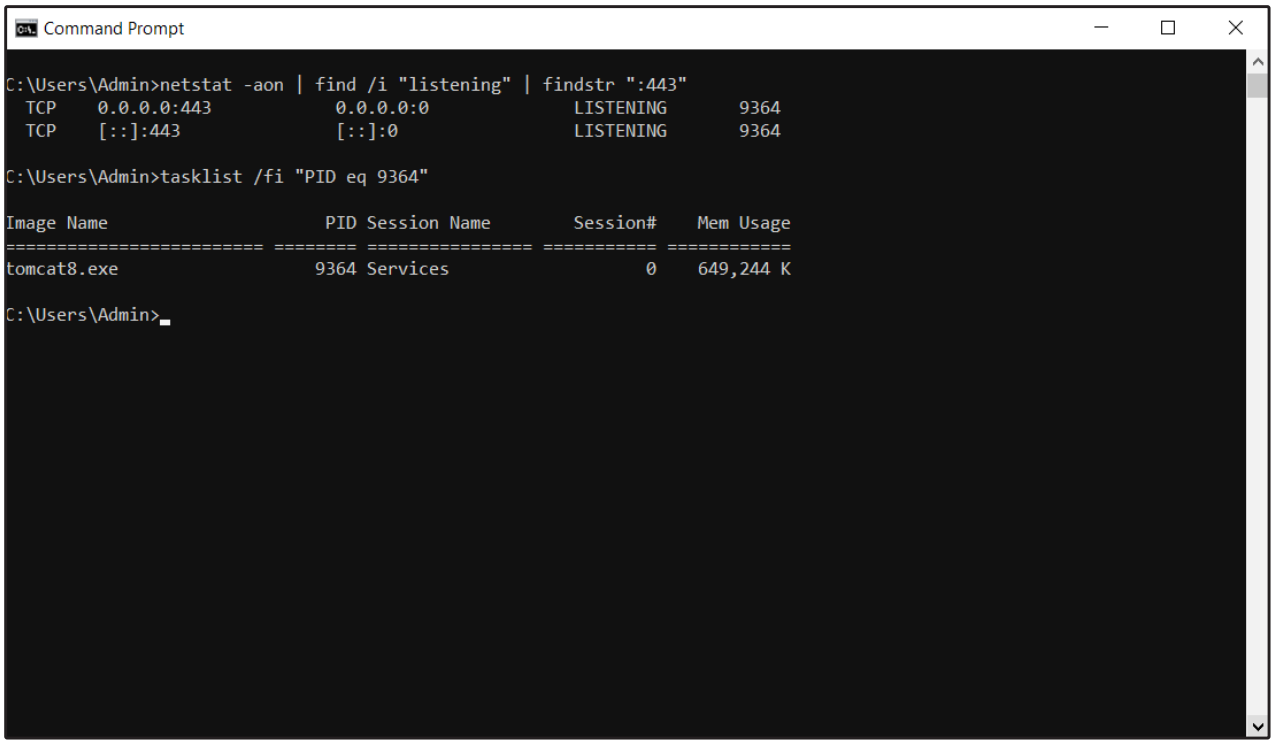
This is simply a warning prompt, suggesting that LG CDM installer executable cannot confirm the server machine's port 443 and port 5672 is open and/or listening. Port 443 is required by Apache-Tomcat service for https connection while port 5672 is used by the Message Broker to establish communication channel between the server (LG CDM) and the end-point devices. Click [OK] to proceed installation.

Optionally, you may use following command to see if the ports are being listened by the appropriate processes:

netstat -aon | find /i "listening" | findstr ":443"

tasklist /fi "PID eq <PID>"

Upper command checks ID of which process that's listening port 443. Insert Process ID in <PID> in lower command to check if the ID belongs to tomcat process. (See the figure below)



LG
Life's Good