



Remote Management LAN Card **IPMI expansion card**

FAQ

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Troubleshooting

IPMI Expansion Card installation tips and precautions

- The USB connector (**USB**) provides the IPMI Expansion Card with power, data transfer, and keyboard and mouse function for KVM remote control. Ensure the USB connector (**USB**) on the IPMI Expansion Card is connected to the USB 2.0 connector on your motherboard.
- Support for the BIOS burning function may vary between motherboards. To use the BIOS burning function, ensure the SPI header on the IPMI Expansion Card is connected to the IPMI TPM header on the motherboard.
- To use the CHA FAN sensor and control function, ensure the fans are connected to the Fan headers 1-8, and the 6-pin PSU connector is connected to a power supply.
- To use the PSU sensor and power redundancy settings function, ensure the power supply is connected to the PSU PM_BUS header, and the SMART_PSU switch jumper is set to Enable.
- To use the TR temperature sensor function, ensure the T_SENSOR headers 1-3 are connected to the motherboard.

IPMI Expansion Card BIOS tips and precautions

- To use the BMC remote management controller function, the client device motherboard needs to support this function. Support may vary between motherboards.
- Once you have updated to a BIOS version which supports the IPMI expansion card, you will not be able to flash back to the original version of the BIOS using a BIOS update tool.
- You can view or configure the IPMI Expansion card's BIOS settings by entering BIOS and navigating to the IPMI menu (Server Mgmt menu for selected models).
- You can configure the BMC parameters and network through the BIOS by navigating to IPMI > BMC Network Configuration.

Other troubleshooting issues

Problem	Solution
<p>The local/central server cannot connect to the IPMI Expansion Card.</p>	<ul style="list-style-type: none"> • Make sure the IPMI Expansion Card is installed correctly onto the client device's motherboard, and the LED indicators on the IPMI Expansion Card light up when the client device is powered on. • Check if the LAN cable is properly connected to the LAN port on the IPMI Expansion Card and the local/central server's LAN port. • Check the network and parameter settings of the client device's BMC remote management controller card. Please refer to the user manual for more details. • Make sure that the IP address of both the remote and local/central servers are on the same subnet.
<p>The Web-based user interface shows a VERSION_ERR message, and the LED indicator on the IPMI Expansion card lights up orange.</p>	<ul style="list-style-type: none"> • Check if the BIOS of the client device's motherboard supports the version of the IPMI Expansion Card. • If you are updating the firmware of the IPMI Expansion Card, make sure to restart the client device's system after the update has been completed.
<p>The I forgot my password function on the Login page does not work.</p>	<p>If you have forgotten your password and wish to use the I forgot my password function, ensure the user email and SMTP settings are configured before using this function.</p> <p><u>User email:</u></p> <ol style="list-style-type: none"> a. Click on Settings > User Management, then select the user slot you wish to set. b. Enter the user email into the Email ID field, then click Save to save the changes made. <p><u>SMTP:</u></p> <ol style="list-style-type: none"> a. Click on Settings > SMTP Settings then set the SMTP server to receive emails, and click on Save to save the changes made. <p>Once the user email and SMTP settings are configured, you will receive an OTP code by email after clicking on I forgot my password, enter the OTP code to reset your user password.</p>
<p>The date/time shown on the SEL (System Event Log) screen is incorrect.</p>	<ul style="list-style-type: none"> • The system event logs will display the default date/time if there was no network connection when the BMC remote device was turned on. • Go to Settings > Date & Time, and make sure the time zone, date, and time are correct.

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Problem	Solution
<p>Certain sensor readings on the Sensors page are not updating for specific platforms.</p>	<ul style="list-style-type: none"> • Selecting a sensor in the Normal Sensors block will allow you to view the changes to the sensor readings over time. • Certain sensors will only update when turning on the remote device and will not update over time for selected platforms. • Support for the real-time sensor monitoring function may vary between motherboards. If real-time sensor monitoring function is supported, ensure the BMC header is connected to the BMC header on the motherboard; if the BMC header is not connected to the BMC header on the motherboard, the system will only retrieve data once when the system is powering up. • The CPU fan sensor under Critical Sensor is set to disabled by default if the CPU fan is not connected.
<p>How do I view the sensor readings in graph mode.</p>	<p>You can view a graphical representation of the sensors under Normal Sensors. The fluctuations on the Y-axis depends on the sensor readings, and hovering over the graph allows you to view the value of the sensor reading.</p>
<p>Some sensors are not creating event logs, even after the Sensors have been configured.</p>	<ul style="list-style-type: none"> • The UNC/UC/UNR of the fan will not create an event log when the rotation speed exceeds the upper threshold • The temperature's LNR / LC / LNC will not create an event log when the temperature drops below the lower threshold. • You can view the UNR / LNR values of the sensors, but no event log will be created if the sensor's UNR exceeds the upper threshold or if the sensor's LNR drops below the lower threshold.
<p>Some items do not display any information when viewing the FRU information.</p>	<p>FRU information can be written using IPMITool commands, for more information on IPMITool commands, please refer to the user manual or the Common IPMITool commands section of this FAQ.</p>
<p>Cannot set the time and timezone when setting the time and date.</p>	<ul style="list-style-type: none"> • You will not be able to select a timezone on the map if you have manually entered a timezone when setting the date and time. • Make sure to click on Save after setting the time and date for the new settings to come into effect. • The BMC web interface will automatically log you out if the time set for the BMC and remote device are more than 30 mins apart after powering up the remote device. Ensure to set the BMC time either automatically or manually once the BMC has connected online.

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Problem	Solution
<p>A message pops up telling me I don't have the permissions to use the JViewer for remote access.</p>	<ul style="list-style-type: none"> • If you wish to open the jviewer (.jnlp) file, download and install a software that supports it, for example, IcedTea Windows x64. • Launch the Command Prompt (CMD) as administrator, then use the command line to execute the Java Web Start exe file and the corresponding .jnlp file to use the JViewer function.  <ul style="list-style-type: none"> • The downloaded JNLP certificate can only be used once. If you need to use the JNLP certificate after it has been used, please click Launch JViewer to download it again.
<p>The firewall is not functioning according to the settings configured.</p>	<ul style="list-style-type: none"> • Make sure to set the BMC system time before configuring the firewall. This will ensure the date and time of the configured firewall rule is working properly. • If the settings are not working as configured after configuring the firewall, please check and adjust the BMC system's time and date to ensure the date and time of the firewall rules work properly.
<p>Performing a power control function has no effect on the device.</p>	<ul style="list-style-type: none"> • Before using the power off, power on, and reset functions, ensure the PANEL header of the IPMI Expansion Card is connected to the motherboard and the chassis. Ensure to take note of the cables' orientations; the cables should be connected to the IPMI Expansion Card such that the red cable is closest to the PCB. • The Power On/Off cable and Reset cable are connected in opposite orientations when connecting them to the Panel header on your motherboard. Make sure the black cable is connected to the Ground/GND pin. For more information on the pin definitions of the Panel header on your motherboard, please refer to your motherboard's user guide.

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Problem	Solution
<p>Any precautions before using the firmware update function?</p>	<ul style="list-style-type: none"> • Some functions may have incomplete functionality due to it not being updated if Preserve all Configurations is checked, or if the item was selected to be preserved when updating the firmware. • The Section Firmware Update will display and compare the existing version and uploaded version. You can on check Version Compare Flash then select which sections to update by checking that section, or check Full Flash to update all sections. • After entering the update mode, the widgets, other web pages and services will not work. All open widgets will be automatically closed. If the upgrade is canceled in the middle of the update, the device will be reset only for BMC, BOOT, and APP components of the firmware. A system reset is required for the device to work normally. • Please refresh the Web GUI and set the client device's BMC administrator password again after the BMC firmware has finished updating.
<p>How do you perform an update after selecting and uploading the BIOS when executing BIOS OOB update.</p>	<p>Click on power restart from the shortcut menu after uploading the BIOS file, the BIOS OOB will automatically update after the client device has restarted.</p>

Functions and examples

How to back up and restore configurations

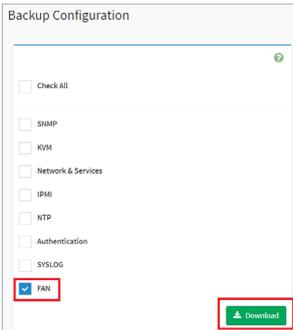
Please refer to the example below on to backing up, restoring, and preserving configurations for the FAN item.



For more information on **Backup Configuration**, **Preserve Configuration**, and **Restore Configuration**, please refer to the user manual.

- **Backing up FAN configuration**

1. Navigate to **Maintenance > Backup Configuration**.
2. Check the **FAN** item.
3. Click **Download** to download the .bak file for **FAN**.

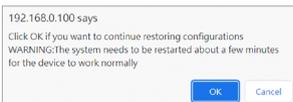


- **Restoring FAN controller configurations**

1. Navigate to **Maintenance > Restore Configuration**.
2. Browse and select the .bak file of the FAN configuration you wish to restore.
3. Click **Save**.



4. Click **OK** on the confirmation window.



5. Once the configurations have been restored, the system will automatically log out, make sure to log back into the web interface. Restart the client device after logging into the web interface.

- **Preserving FAN controller configurations**
 1. Navigate to **Maintenance > Preserve Configuration**.
 2. Check the **FAN** item.
 3. Click **Save**.

Preserve Configuration

Click here to go to [Firmware Update](#) or [Restore Factory Defaults](#)

Check All

SDR

FRU

SEL

IPMI

Network

NTP

SNMP

SSH

KVM

Authentication

Syslog

Web

Extlog

Redfish

Fan

4. Once the configurations have been preserved, choose whether to **Restore Factory Defaults** or perform a **Firmware Update** by clicking on the corresponding link.

How to view and set PSU address

If your **PSU Address Current Setting** differs from the scan results and you need to set the PSU address, please refer to the following example using 2 PSUs.



For more information on **PSU Settings**, please refer to the user manual.

1. Use the IPMITool or PSU detection scan function to scan for PSU addresses, then check if they are the same as the **PSU Address Current Setting**, please see below for steps on using both methods.

- Using the web interface PSU Detection Scan function

PSU Detection	
PSU Address Current Setting	80 82 84 8c
PSU Address Scan Result	32 36 38 3a 72 74 76 7a
<input type="button" value="Scan"/>	

- Executing IPMITool commands in Command Prompt (CMD) as administrator

- a. Enter the command to view the currently set PSU address:

```
ipmitool -H (BMC IP address) -I lanplus -U (username) -P (user password) raw 0x30 0x96
```

```
C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.22000.1219]
(c) Microsoft Corporation. All rights reserved.

C:\Users\admin\Desktop\ipmitool\ipmitool>ipmitool.exe -H 192.168.0.100 -I lanplus -U admin -P admin1234
raw 0x30 0x96
b8 b2 b4 b6
```

- b. Enter the command to scan PSU addresses:

```
ipmitool -H (BMC IP address) -I lanplus -U (username) -P (user password) raw 0x30 0x9c 0x00
```

```
C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.22000.1219]
(c) Microsoft Corporation. All rights reserved.

C:\Users\admin\Desktop\ipmitool\ipmitool>ipmitool.exe -H 192.168.0.100 -I lanplus -U admin -P admin1234
raw 0x30 0x9c 0x00
```

- c. If the scan results are different from the currently set PSU address, please set the PSU address with IPMITool commands either by using the PSU address provided by the manufacturer (e.g. 36 and 38):

```
ipmitool -H (BMC IP address) -I lanplus -U (username) -P (user password) raw 0x30 0x96 0x36 0x38 0xb0 0xb2
```

```
C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.22000.1219]
(c) Microsoft Corporation. All rights reserved.

C:\Users\admin\Desktop\ipmitool\ipmitool>ipmitool.exe -H 192.168.0.100 -I lanplus -U admin -P admin1234
raw 0x30 0x96 0x36 0x38 0xb0 0xb2
36 38 b0 b2
```

OR if you are unable to obtain the PSU address provided by the manufacturer, you can set the PSU address using the scan results:

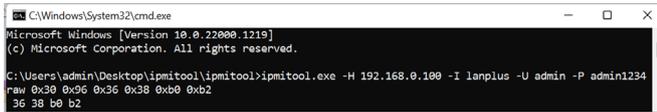
```
ipmitool -H (BMC IP address) -I lanplus -U (username) -P (user password) raw 0x30 0x96 0x32 0x36 0x38 0x3a
```

```
C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.22000.1219]
(c) Microsoft Corporation. All rights reserved.

C:\Users\admin\Desktop\ipmitool\ipmitool>ipmitool.exe -H 192.168.0.100 -I lanplus -U admin -P admin1234
raw 0x30 0x96 0x32 0x36 0x38 0x3a
32 36 38 3a
```

2. If the scan results are different from the currently set PSU address, please set the PSU address with IPMITool commands either by

- a. Using the PSU address provided by the manufacturer (e.g. 36 and 38):
ipmitool -H (BMC IP address) -I lanplus -U (username) -P (user password) raw 0x30 0x96 0x36 0x38 0xb0 0xb2



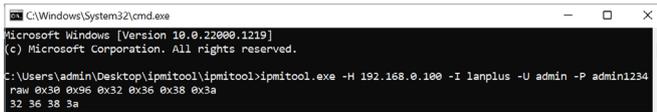
```
C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.22000.1219]
(c) Microsoft Corporation. All rights reserved.

C:\Users\admin\Desktop\ipmitool\ipmitool>ipmitool.exe -H 192.168.0.100 -I lanplus -U admin -P admin1234
raw 0x30 0x96 0x36 0x38 0xb0 0xb2
36 38 b0 b2
```

OR

- b. If you are unable to obtain the PSU address provided by the manufacturer, you can set the PSU address using the scan results:

ipmitool -H (BMC IP address) -I lanplus -U (username) -P (user password) raw 0x30 0x96 0x32 0x36 0x38 0x3a

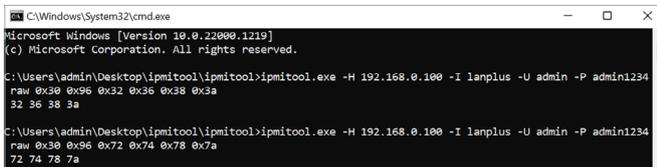


```
C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.22000.1219]
(c) Microsoft Corporation. All rights reserved.

C:\Users\admin\Desktop\ipmitool\ipmitool>ipmitool.exe -H 192.168.0.100 -I lanplus -U admin -P admin1234
raw 0x30 0x96 0x32 0x36 0x38 0x3a
32 36 38 3a
```

- c. (optional) If you have set the PSU address using scan results, and the sensor values for the corresponding PSU looks abnormal, please set the PSU address to another unused address from the scan results:

ipmitool -H (BMC IP address) -I lanplus -U (username) -P (user password) raw 0x30 0x96 0x72 0x74 0x78 0x7a



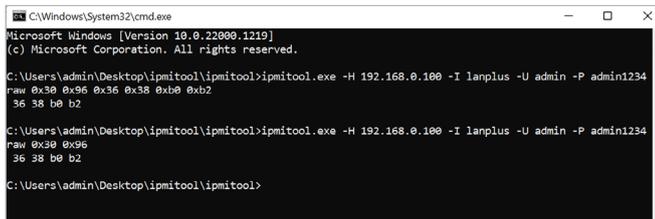
```
C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.22000.1219]
(c) Microsoft Corporation. All rights reserved.

C:\Users\admin\Desktop\ipmitool\ipmitool>ipmitool.exe -H 192.168.0.100 -I lanplus -U admin -P admin1234
raw 0x30 0x96 0x32 0x36 0x38 0x3a
32 36 38 3a

C:\Users\admin\Desktop\ipmitool\ipmitool>ipmitool.exe -H 192.168.0.100 -I lanplus -U admin -P admin1234
raw 0x30 0x96 0x72 0x74 0x78 0x7a
72 74 78 7a
```

3. Enter the command to view the currently set PSU address:

ipmitool -H (BMC IP address) -I lanplus -U (username) -P (user password) raw 0x30 0x96

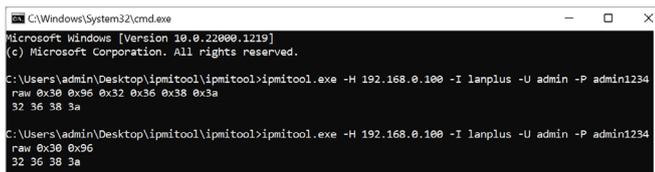


```
C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.22000.1219]
(c) Microsoft Corporation. All rights reserved.

C:\Users\admin\Desktop\ipmitool\ipmitool>ipmitool.exe -H 192.168.0.100 -I lanplus -U admin -P admin1234
raw 0x30 0x96 0x36 0x38 0xb0 0xb2
36 38 b0 b2

C:\Users\admin\Desktop\ipmitool\ipmitool>ipmitool.exe -H 192.168.0.100 -I lanplus -U admin -P admin1234
raw 0x30 0x96
36 38 b0 b2

C:\Users\admin\Desktop\ipmitool\ipmitool>
```

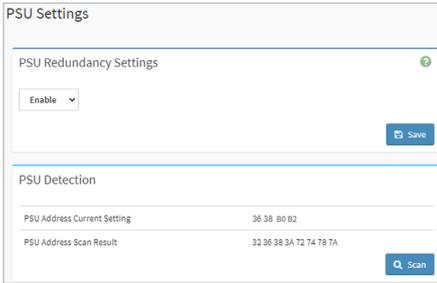


```
C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.22000.1219]
(c) Microsoft Corporation. All rights reserved.

C:\Users\admin\Desktop\ipmitool\ipmitool>ipmitool.exe -H 192.168.0.100 -I lanplus -U admin -P admin1234
raw 0x30 0x96 0x32 0x36 0x38 0x3a
32 36 38 3a

C:\Users\admin\Desktop\ipmitool\ipmitool>ipmitool.exe -H 192.168.0.100 -I lanplus -U admin -P admin1234
raw 0x30 0x96
32 36 38 3a
```

4. Navigate back to **Settings > PSU Settings**, and click on **Scan** in the **PSU Detection** block and the changes made should be displayed.



5. If your system has 4 PSUs connected, please make sure to also enable PSU3 and PSU4 after setting the PSU addresses for them. Below is an example of a command to enable all PSUs:
- ```
ipmitool -H (BMC IP address) -I lanplus -U (username) -P (user password) raw 0x30 0x9e 0x01 0x01 0x01 0x01
```

```
C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.22000.1219]
(c) Microsoft Corporation. All rights reserved.

C:\Users\admin\Desktop\ipmitool>ipmitool.exe -H 192.168.0.100 -I lanplus -U admin -P admin1234
raw 0x30 0x9e 0x32 0x36 0x38 0x3a
32 36 38 3a

C:\Users\admin\Desktop\ipmitool>ipmitool.exe -H 192.168.0.100 -I lanplus -U admin -P admin1234
raw 0x30 0x9e
32 36 38 3a
```

## How to use the User Profile tool

The User Profile tool can assist you in backing up or restoring Fan User Profile and BIOS User Profile, either locally or remotely on Windows or Linux systems.



If your device is using Linux, make sure to install the **glibc** package (version 2.5 or above) before using the User Profile tool.

The parameters used in the examples are as below:

| Parameter            | Description                                         |
|----------------------|-----------------------------------------------------|
| -h, --help           | Display help information and exit.                  |
| -a, --action         | Perform action (backup or restore).                 |
| -i, --ip             | Client device BMC IP address.                       |
| -u, --user           | Client device BMC account.                          |
| -p, --password       | Client device BMC password.                         |
| -o, --output         | Export or import document.                          |
| -bp, --bios_password | (optional) Existing BIOS password of client device. |
| -r, --retry          | (optional) Retry count.                             |

### • Backing up BIOS User Profile

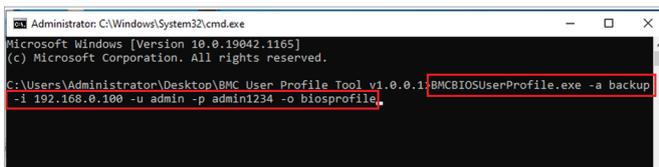


If the client device is a new and unused device, please go through the entire power on procedure to allow the BIOS User Profile file to be loaded in properly before starting the backup procedure.

1. Unzip the **User Profile Tool** zip file.
2. Launch the Command Prompt (CMD) as administrator, then use the command line to execute the **BIOS User Profile Tool**.
3. Enter the following command: **BMCBIOSUserProfile.exe -a [backup] -i [ip] -u [account] -p [password] -o [file] -r [option: retry count]**

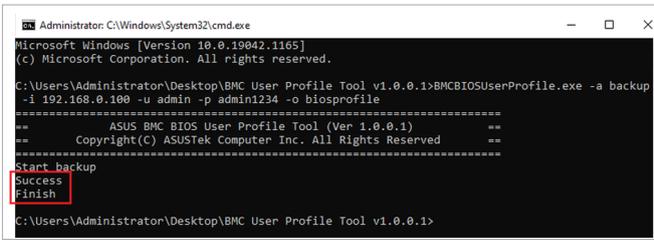
#### Example

```
BMCBIOSUserProfile.exe -a backup -i 192.168.0.101 -u admin
-p admin1234 -o biosprofile
BMCBIOSUserProfile.exe -a backup -i 192.168.0.101 -u admin
-p admin1234 -o biosprofile -r 5
```



4. Press <Enter>.

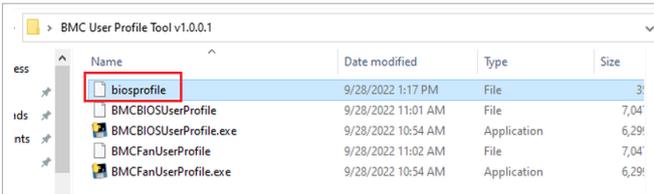
- Once the backup is completed, **Success**, **Finish** should be displayed.



```
Administrator: C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.19042.1165]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Administrator\Desktop\BMC User Profile Tool v1.0.0.1>BMCBIOSUserProfile.exe -a backup
-i 192.168.0.100 -u admin -p admin1234 -o biosprofile
=====
ASUS BMC BIOS User Profile Tool (Ver 1.0.0.1)
Copyright(C) ASUSTek Computer Inc. All Rights Reserved
=====
Start backup
Success
Finish
C:\Users\Administrator\Desktop\BMC User Profile Tool v1.0.0.1>
```

- The backup file will be saved in the BIOS User Profile Tool folder, make sure to keep the backup file in a safe location.



The most recent BIOS User Profile file cannot be backed up if the client device's BIOS settings have not been applied, such as when the device is still in the startup sequence or on a BIOS settings page.

## • Restoring BIOS User Profile backup



A downloaded BIOS User Profile file can be used to update devices of the same model if they match the following conditions:

- Devices are of the same model
- The BIOS version of the device is the same as the BIOS version of the downloaded BIOS User Profile file.

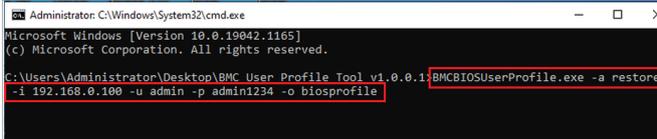
- Unzip the **User Profile Tool** zip file.
- Launch the Command Prompt (CMD) as administrator, then use the command line to execute the **BIOS User Profile Tool**.

3. Enter the following command: `BMCBIOSUserProfile.exe -a [restore] -i [ip] -u [account] -p [password] -o [file] -r [option: retry count] -bp [option: bios password]`

#### Example

```
BMCBIOSUserProfile.exe -a restore -i 192.168.0.101 -u admin
-p admin1234 -o biosprofile
```

```
BMCBIOSUserProfile.exe -a restore -i 192.168.0.101 -u admin
-p admin1234 -o biosprofile -r 5 -bp asus1234
```



```
Administrator: C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.19042.1165]
(c) Microsoft Corporation. All rights reserved.
C:\Users\Administrator\Desktop\BMC User Profile Tool v1.0.0.1>BMCBIOSUserProfile.exe -a restore
-i 192.168.0.100 -u admin -p admin1234 -o biosprofile
```



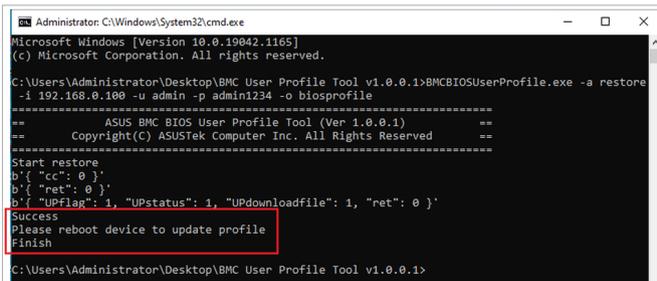
If the client device you wish to restore a backup to has a BIOS password set, use the `-bp` parameter to enter the BIOS password. The password should consist of 3-20 characters or be empty.

4. Press `<Enter>`.



- To ensure the BIOS User Profile update procedure is successful, please do not force shutdown the client device, restart the client device, or enter BIOS during the update procedure.
- Updating a BIOS User Profile will clear the current BIOS User Profile of the client device. Ensure to backup the current BIOS User Profile before beginning the BIOS User Profile update procedure.

5. Once the backup restore is completed, **Success**, **Finish** and **Please reboot device to update profile** should be displayed.



```
Administrator: C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.19042.1165]
(c) Microsoft Corporation. All rights reserved.
C:\Users\Administrator\Desktop\BMC User Profile Tool v1.0.0.1>BMCBIOSUserProfile.exe -a restore
-i 192.168.0.100 -u admin -p admin1234 -o biosprofile
=====
ASUS BMC BIOS User Profile Tool (Ver 1.0.0.1)
=====
Copyright(C) ASUSTek Computer Inc. All Rights Reserved
=====
Start restore
b{ "cc": 0 }'
b{ "ret": 0 }'
b{ "UPflag": 1, "UPstatus": 1, "UPdownloadfile": 1, "ret": 0 }'
Success
Please reboot device to update profile
Finish
C:\Users\Administrator\Desktop\BMC User Profile Tool v1.0.0.1>
```



After restoring a BIOS User Profile backup, restart the client device to update the BIOS User Profile. The client device will automatically detect a new BIOS User Profile file and begin the update after the client device restarts.

- **Backing up BMC Fan Profile**

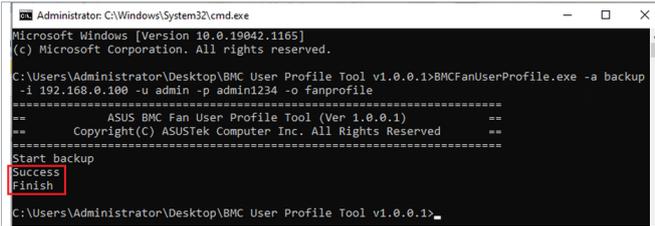
1. Unzip the **User Profile Tool** zip file.
2. Launch the Command Prompt (CMD) as administrator, then use the command line to execute the **Fan Profile Tool**.
3. Enter the following command: **BMCFanUserProfile.exe backup -a [backup] -i [ip] -u [account] -p [password] -o [file] -r [option: retry count]**

**Example**

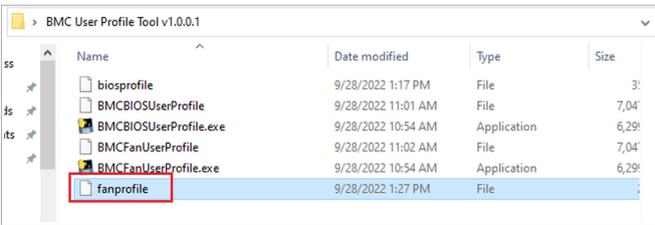
```
BMCFanUserProfile.exe -a backup -i 192.168.0.101 -u admin -p admin1234 -o fanprofile
BMCFanUserProfile.exe -a backup -i 192.168.0.101 -u admin -p admin1234 -o fanprofile -r 5
```



4. Press **<Enter>**.
5. Once the backup is completed, **Success**, **Finish** should be displayed.



6. The backup file will be saved in the Fan Profile Tool folder, make sure to keep the backup file in a safe location.

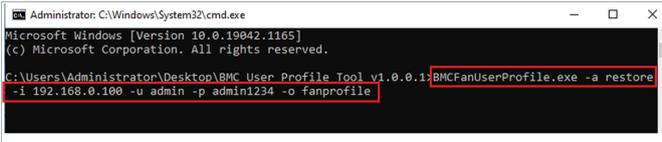


- **Restoring Fan Profile backup**

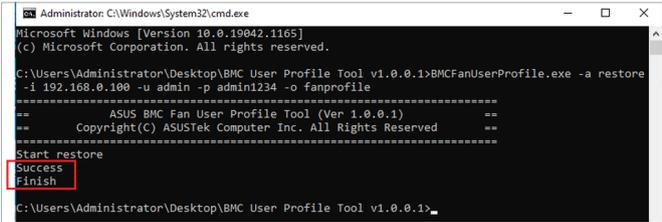
1. Unzip the **User Profile Tool** zip file.
2. Launch the Command Prompt (CMD) as administrator, then use the command line to execute the **Fan Profile Tool**.
3. Enter the following command: **BMCFanUserProfile.exe restore -a [restore] -i [ip] -u [account] -p [password] -o [file] -r [option: retry count]**

**Example**

```
BMCFanUserProfile.exe -a restore -i 192.168.0.101 -u admin
-p admin1234 -o fanprofile
BMCFanUserProfile.exe -a restore -i 192.168.0.101 -u admin
-p admin1234 -o fanprofile -r 5
```



4. Press <Enter>.
5. Once the backup restore is completed, **Success, Finish and Please reboot device to update profile** should be displayed.



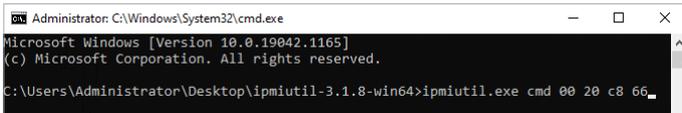
# How to Reset the IPMI expansion card login password

If you have forgotten the IPMI expansion card login account and password of the client device, you can reset the password using the steps below. Please note that the steps to reset the password differ between Windows and Linux OS.

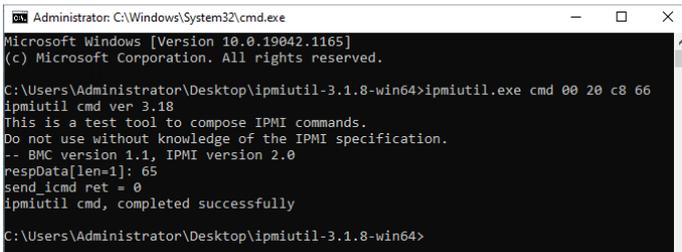
- For Windows

1. Enter BIOS and navigate to **IPMI > In-Band driver type** and select **Windows**, then save and reset.
2. Download IPMI Utility, then unzip the downloaded file.
3. Launch the Command Prompt (CMD) as administrator, then use the command line to execute IPMI Utility by entering the following command:

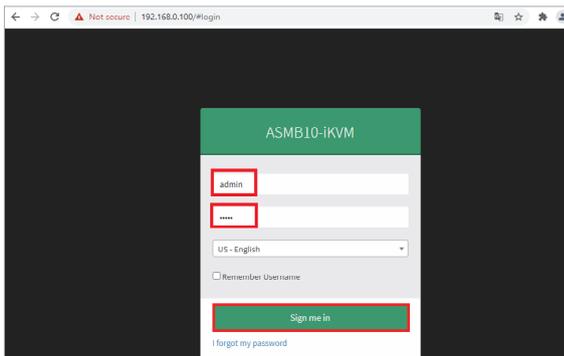
```
ipmiutil.exe cmd 00 20 c8 66
```



4. Press <Enter> then wait for the message prompt to indicate that the execution was completed successfully.



5. Open the web browser, then enter the IP address of the client device to enter the web user interface.
6. Enter the default username (admin), and password (admin), then click **Sign me in**.



7. You will be prompted to change your password after logging in. Please ensure that you change the password to a new password.
8. After updating the password, please log in again using the new password.

- For Linux

1. Enter BIOS and navigate to **IPMI > In-Band driver type** and select **Linux**, then save and reset.
2. Launch the Command Prompt on the client device.
3. Enter the following command `$ sudo apt-get update` and press <Enter>.
4. Next, enter the following command `$ sudo apt-get install ipmitool` and press <Enter>.
5. Finally, enter the following command `$ sudo ipmitool raw 0x32 0x66` and press <Enter>.
6. Open the web browser, then enter the IP address of the client device to enter the web user interface.
7. Enter the default username (admin), and password (admin), then click **Sign me in**.
8. You will be prompted to change your password after logging in. Please ensure that you change the password to a new password.
9. After updating the password, please log in again using the new password.

# IPMITool help commands

Operation commands should include the client device's BMC IP address. To view the client device's BMC IP address, please enter the client device's BIOS setting > **IPMI (Server Mgmt** on selected models) > **BMC network configuration**, the BMC IP address can be found in this sub-menu.

When using IPMITool to execute a command for BMC management, make sure to select the correct operating system (Windows or Linux) of the device in BIOS with the **In-Band driver type** option under the **Server Mgmt** or **IPMI** menu.

| Command           | Description                                                    |
|-------------------|----------------------------------------------------------------|
| <b>raw</b>        | Send a RAW IPMI request and print response.                    |
| <b>i2c</b>        | Send an I2C Master Write-Read command and print response.      |
| <b>spd</b>        | Print SPD info from remote I2C device.                         |
| <b>lan</b>        | Configure LAN Channels.                                        |
| <b>chassis</b>    | Get chassis status and set power state.                        |
| <b>power</b>      | Shortcut to chassis power commands.                            |
| <b>event</b>      | Send pre-defined events to MC.                                 |
| <b>mc</b>         | Management Controller status and global enables.               |
| <b>sdr</b>        | Print Sensor Data Repository entries and readings.             |
| <b>sensor</b>     | Print detailed sensor information.                             |
| <b>fru</b>        | Print built-in FRU and scan SDR for FRU locators.              |
| <b>gendev</b>     | Read/Write Device associated with Generic Device locators sdr. |
| <b>sel</b>        | Print System Event Log (SEL).                                  |
| <b>pef</b>        | Configure Platform Event Filtering (PEF).                      |
| <b>sol</b>        | Configure and connect IPMIv2.0 Serial-over-LAN.                |
| <b>tsol</b>       | Configure and connect with Tyan IPMIv1.5 Serial-over-LAN.      |
| <b>isol</b>       | Configure IPMIv1.5 Serial-over-LAN.                            |
| <b>user</b>       | Configure Management Controller users.                         |
| <b>channel</b>    | Configure Management Controller channels.                      |
| <b>session</b>    | Print session information.                                     |
| <b>sunoem</b>     | OEM Commands for Sun servers.                                  |
| <b>kontronoem</b> | OEM Commands for Kontron devices.                              |
| <b>picmg</b>      | Run a PICMG/ATCA extended cmd.                                 |
| <b>fwum</b>       | Update IPMC using Kontron OEM Firmware Update Manager.         |
| <b>firewall</b>   | Configure Firmware Firewall.                                   |
| <b>exec</b>       | Run list of commands from file.                                |
| <b>set</b>        | Set runtime variable for shell and exec.                       |
| <b>hpm</b>        | Update HPM components using PICMG HPM.1 file.                  |
| <b>ekanalyzer</b> | Run FRU-Ekeying analyzer using FRU files.                      |
| <b>ime</b>        | Update Intel Manageability Engine Firmware.                    |
| <b>vita</b>       | Run a VITA 46.11 extended cmd.                                 |
| <b>lan6</b>       | Configure IPv6 LAN Channels.                                   |

# Common IPMITool commands

Operation commands should include the client device's BMC IP address. To view the client device's BMC IP address, please enter the client device's BIOS setting > **IPMI (Server Mgmt on selected models) > BMC network configuration**, the BMC IP address can be found in this sub-menu.

| Command option                                                                                                        | Description                                                                                                                                              |
|-----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| ipmitool -H (BMC IP address) -I lanplus -U (username) -P (password) mc info                                           | View BMC information.                                                                                                                                    |
| ipmitool -H (BMC IP address) -I lanplus -U (username) -P (password) lan print (ChannelNo)                             | View network configuration.                                                                                                                              |
| ipmitool -H (BMC IP address) -I lanplus -U (username) -P (password) lan set (ChannelNo) ipsrc <static/dhcp>           | Set the IP as Static/DHCP mode.                                                                                                                          |
| ipmitool -H (BMC IP address) -I lanplus -U (username) -P (password) lan set (ChannelNo) ipaddr <IPAddress>            | Configure IP address.                                                                                                                                    |
| ipmitool -H (BMC IP address) -I lanplus -U (username) -P (password) lan set (ChannelNo) netmask <NetMask>             | Configure Subnet mask.                                                                                                                                   |
| ipmitool -H (BMC IP address) -I lanplus -U (username) -P (password) lan set (ChannelNo) defgw ipaddr <DefaultGateway> | Configure default gateway.                                                                                                                               |
| ipmitool -H (BMC IP address) -I lanplus -U (username) -P (password) chassis status                                    | View status of chassis power supply and fan(s).                                                                                                          |
| ipmitool -H (BMC IP address) -I lanplus -U (username) -P (password) power status                                      | View power status.                                                                                                                                       |
| ipmitool -H (BMC IP address) -I lanplus -U (username) -P (password) power on                                          | Power on.                                                                                                                                                |
| ipmitool -H (BMC IP address) -I lanplus -U (username) -P (password) power off                                         | Power off.                                                                                                                                               |
| ipmitool -H (BMC IP address) -I lanplus -U (username) -P (password) power reset                                       | Hard reset.                                                                                                                                              |
| ipmitool -H (BMC IP address) -I lanplus -U (username) -P (password) power cycle                                       | View power cycle.                                                                                                                                        |
| ipmitool -H (BMC IP address) -I lanplus -U (username) -P (password) user list (ChannelNo)                             | View user information.                                                                                                                                   |
| ipmitool -H (BMC IP address) -I lanplus -U (username) -P (password) user set name <user id> <username>                | Add user. Set <user id> to 1 for anonymous user, and 2 for administrator.                                                                                |
| ipmitool -H (BMC IP address) -I lanplus -U (username) -P (password) user set password <user id> <password>            | Set user password.                                                                                                                                       |
| ipmitool -H (BMC IP address) -I lanplus -U (username) -P (password) user priv <user id> <privilege level>             | Set user privileges. Set <privilege level> to 2 for user level permissions, 3 for operator level permissions, and 4 for administrator level permissions. |

(continued on the next page)

| Command option                                                                                                                                                                                       | Description                  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|
| ipmitool -H (BMC IP address) -I lanplus -U (username) -P (password) user enable/disable <user id>                                                                                                    | Enable/Disable user.         |
| ipmitool -H (BMC IP address) -I lanplus -U (username) -P (password) sol activate                                                                                                                     | Activate SOL function.       |
| ipmitool -H (BMC IP address) -I lanplus -U (username) -P (password) sol deactivate                                                                                                                   | Deactivate SOL function.     |
| ipmitool -H (BMC IP address) -I lanplus -U (username) -P (password) sel info                                                                                                                         | View SEL information.        |
| ipmitool -H (BMC IP address) -I lanplus -U (username) -P (password) sel list                                                                                                                         | View SEL records.            |
| ipmitool -H (BMC IP address) -I lanplus -U (username) -P (password) sel elist                                                                                                                        | View detailed SEL records.   |
| ipmitool -H (BMC IP address) -I lanplus -U (username) -P (password) sel clear                                                                                                                        | Clear SEL records.           |
| ipmitool -H (BMC IP address) -I lanplus -U (username) -P (password) fru list                                                                                                                         | View FRU information.        |
| ipmitool -H (BMC IP address) -I lanplus -U (username) -P (password) raw 0x30 0x17 0x01                                                                                                               | Unlock FRU.                  |
| ipmitool -H (BMC IP address) -I lanplus -U (username) -P (password) fru write (FRU channel to write) (FRU bin file to write to)                                                                      | Write FRU information.       |
| ipmitool -H (BMC IP address) -I lanplus -U (username) -P (password) fru print                                                                                                                        | Print FRU information.       |
| ipmitool -H (BMC IP address) -I lanplus -U (username) -P (password) sdr list                                                                                                                         | View SDR Sensor information. |
| ipmitool -H (BMC IP address) -I lanplus -U (username) -P (password) sensor list                                                                                                                      | View Sensor information.     |
| ipmitool -H (BMC IP address) -I lanplus -U (username) -P (password) mc reset <warm/cold>                                                                                                             | Reset BMC.                   |
| ipmitool -H (BMC IP address) -I lanplus -U (username) -P (password) raw 0x30 0x96 [PSU1 address] [PSU2 address] [PSU3 address] [PSU4 address]<br>* PSU address is in 8-bit, e.g. 0xb0 0xb2 0xb4 0xb6 | Set PSU address.             |
| ipmitool -H (BMC IP address) -I lanplus -U (username) -P (password) raw 0x30 0x96                                                                                                                    | Get PSU address.             |
| ipmitool -H (BMC IP address) -I lanplus -U (username) -P (password) raw 0x30 0x98                                                                                                                    | Get BMC hardware version.    |
| ipmitool -H (BMC IP address) -I lanplus -U (username) -P (password) raw 0x30 0x9b (request data)<br>* Request data is in 8-bit, e.g. 0x00 - 0x0f                                                     | Dump MCU register data.      |

(continued on the next page)

| Command option                                                                                                                                                                                                      | Description                                                           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|
| <pre>ipmitool -H (BMC IP address) -I lanplus -U (username) -P (password) raw 0x30 0x9e [PSU1 enable/disable] [PSU2 enable/ disable] [PSU3 enable/disable] [PSU4 enable/disable] * 0x00: Disable; 0x01: Enable</pre> | <p>Enable/Disable PSU.</p>                                            |
| <pre>ipmitool -H (BMC IP address) -I lanplus -U (username) -P (password) raw 0x30 0x9c 0x00</pre>                                                                                                                   | <p>Scan all PSU addresses of equipment on the power supply busbar</p> |

