EVIDEN

BullSequana EX

# SHC Reference Guide

86 A1 26FT 03 - September 2024

## Trademarks and Acknowledgements



**Hardware**

**September 2024**

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# Preface

This guide explains how to use the SHC to manage the server.

**See** The Bull support web site for the most uptodate product information, documentation, firmware updates, software fixes and service offers: https://support.bull.com

## Intended Readers

This guide is intended for use by system administrators and operators.

# Chapter 1. Getting started

## 1.1. Overview

The Server Hardware Console (SHC) for BullSequana EX servers provides a web based interface to manage, configure and monitor the server.

The SHC is powered by OpenBMC, an open source implementation of the Baseboard Management Controller (BMC) firmware stack

## 1.2. Connecting to the Server Hardware Console (SHC)

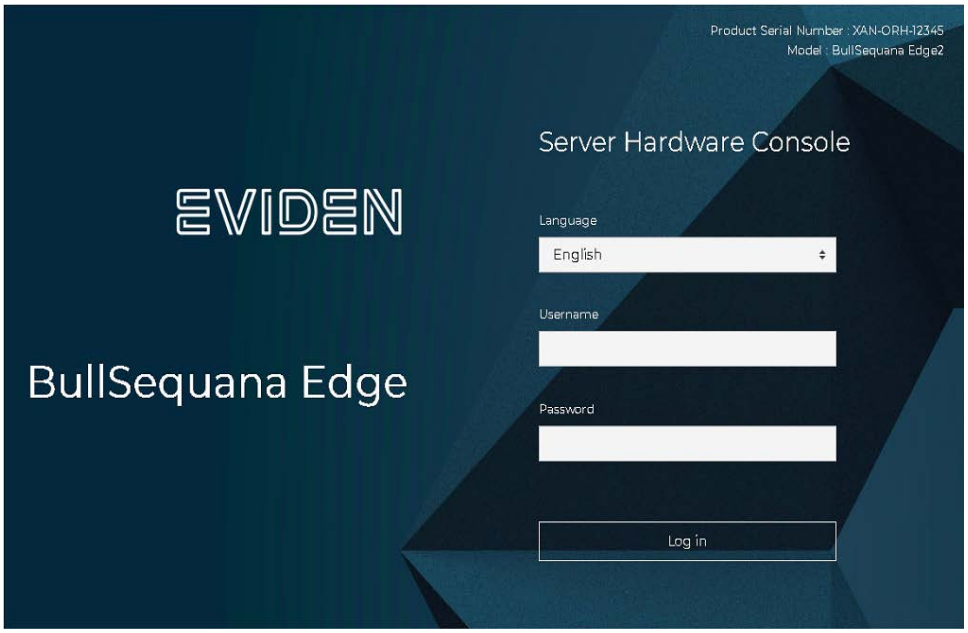
**Prerequisites**

- A laptop is connected to the server via the LAN
- An IP address is available for the server
- Chrome or Firefox web browsers are recommended
- Setting the language of the web browser to English is recommended

**Procedure**

| **Note** | The connection to the SHC must be made using the https protocol. |
|---|---|

1. Open a web browser on the laptop.
2. Enter the server IP address into the address bar, using the https secure protocol.
3. Ignore all security messages displayed, including advanced messages. The SHC authentication page opens.




4. Complete the Username and Password fields and click **Log in**.

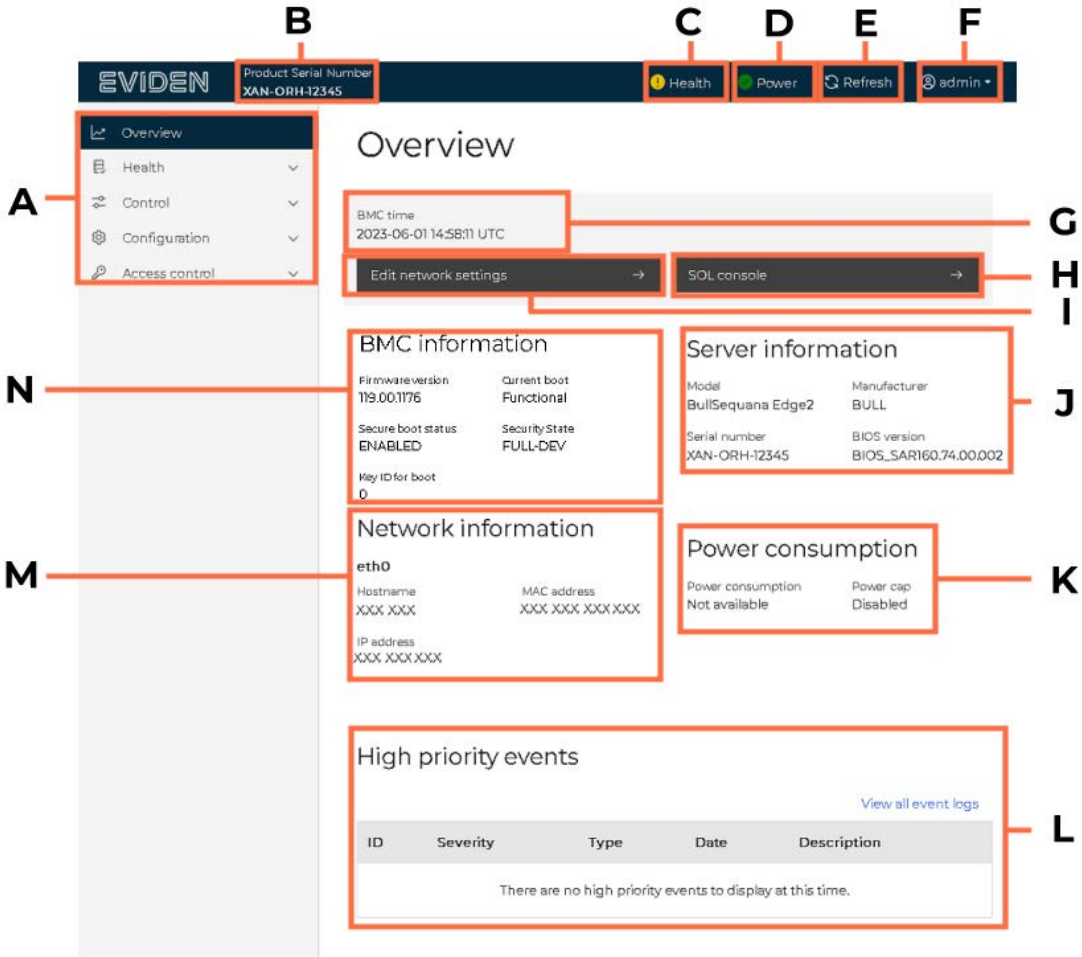
   The Overview page opens

| **Important** | **It is strongly recommended to change the initial password once the setup is completed, taking care to record the new account details for subsequent connections.** |
|---|---|

## 1.3. The Overview page

This page provides a summary of system details and their status. It also includes links to server management and configuration features.

**Note** Some operations, for example, editing network settings, can be performed both from the shortcut (I) on the Overview page or via the feature tab on the left hand side (A).




| Mark | Description |
|---|---|
| A | Feature tabs with sub-items used to monitor, manage and configure a server |
| B | Product serial number of the server |
| C | Summary of the server health status with a link to the **System Logs** |
| D | Server power status with a link to the **Server power operations** page. |
| E | Refresh button for the Overview page. The date and time of the last refresh is shown in the BMC time section. |
| F | **admin** button with links to user profile settings and the log out button. |

| Mark | Description |
|---|---|
| G | BMC time showing the time and date for the information displayed on the **Overview** page. |
| H | Link to the **Serial over LAN (SoL) console** page |
| I | Link to the **Network Settings** page |
| J | Server details |
| K | Power consumption and power cap details |
| L | View high priority event logs. Critical events only are shown. To see all the event logs click **View all event logs** |
| M | Summary of network information |
| N | Summary of BMC information |

## 1.4. SHC features

The SHC tabs include features to:

- Provide an overview of the server
- Monitor the health of the server
- Manage the server
- Configure the server
- Configure access and user settings for the server

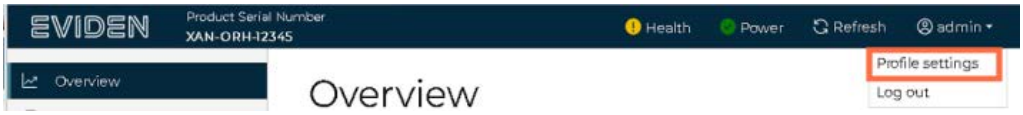
| Tab | Item |
|---|---|
| Overview | Server information |
| | BMC information |
| | Power consumption |
| | Network information |
| | High priority event logs |
| Health | Hardware information |
| | Event log |
| | Sensors |
| | Log Collect |
| Control | Server power operation |
| | KVM |
| | SOL console |
| | Virtual Media |
| | Power restore policy |
| | Server ID LED |
| | Reset to default |
| | Manage power usage |
| | Reboot BMC |
| Configuration | Date and time settings |
| | Firmware |
| | Network settings |
| | Rsyslog |
| | KVM settings |
| | Global settings |

| Tab | Item |
| --- | --- |
| Access control | Client sessions |
| | LDAP |
| | Local user management |
| | SSL certificates |

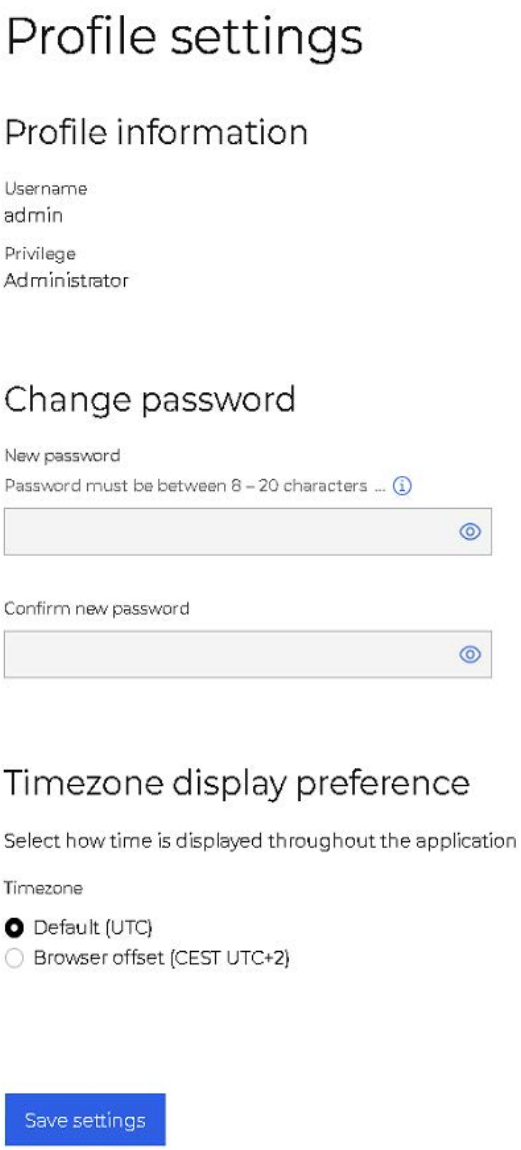
## 1.5. Changing the user password

| | |
|---|---|
| **Important** | **It is strongly recommended to change the initial password once the setup is completed, taking care to record the new account details for subsequent connections.** |

1. From the user profile button, click **Profile settings**.




The **Profile settings** page opens.



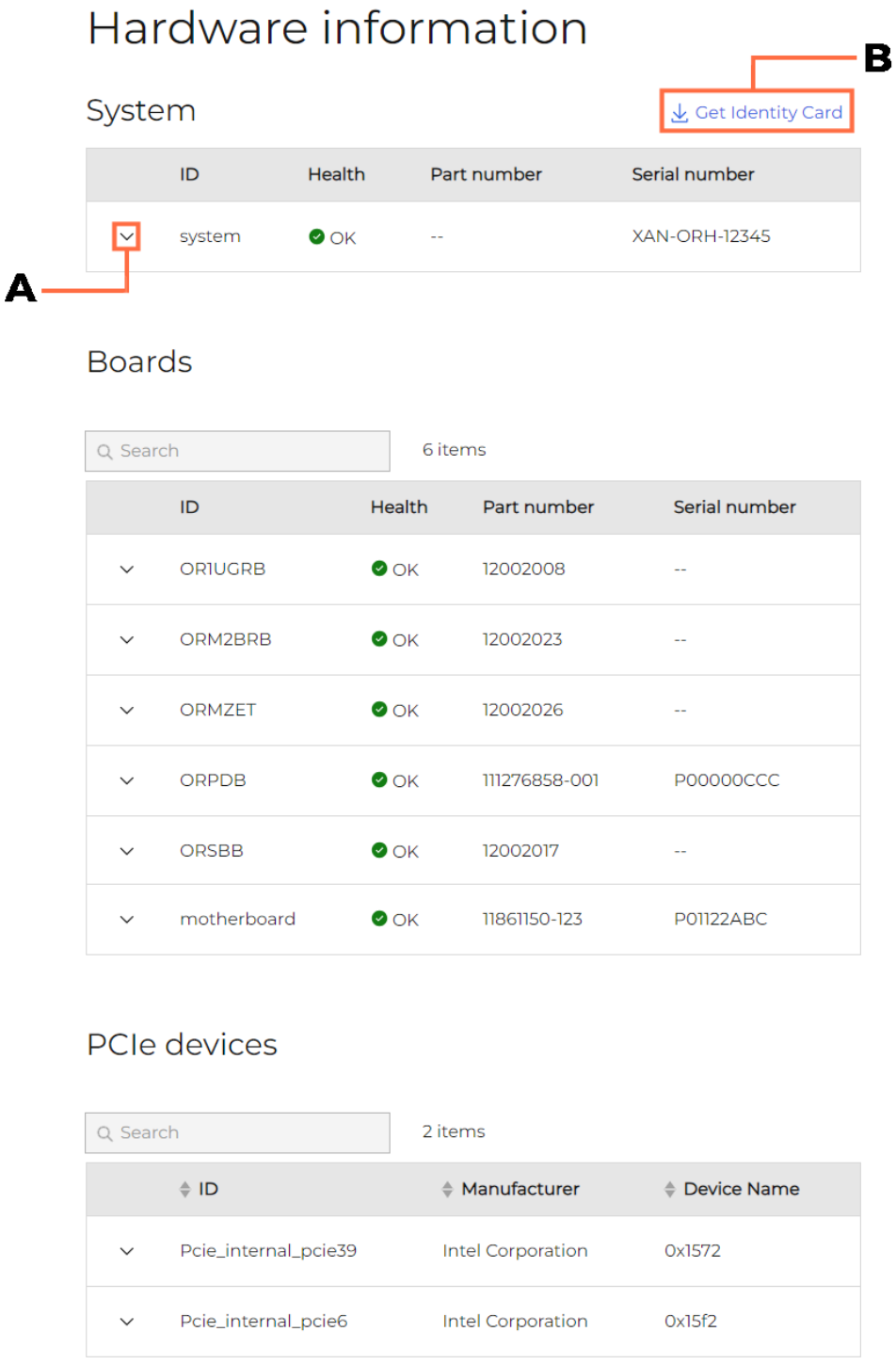
2. Enter and confirm the new password.
   - The password must be between 8 and 20 characters long
   - The password must be a mixture of upper case letters, lower case letters, numbers and special characters
   - The password must be different from the user name
3. Click **Save settings**.

**Note** According to the localisation the timezone can also be changed, for example in France UTC+2 would be used.

# Chapter 2. Monitoring the system

## 2.1. Checking hardware information

1. From the **Health tab**, click **Hardware Information**. The **Hardware Information** page opens.



## DIMM slot

Search 8 items

| ID | Health | Part number | Serial number |
|---|---|---|---|
| DIMM_CHA0 | OK | MTC20F2085S1RC48BA1 | 332B63F6 |
| DIMM_CHH0 | OK | MTC20F2085S1RC48BA1 | 332B6005 |

## Power supplies

| ID | Health | Part number | Serial number |
|---|---|---|---|
| PSU0 | OK | -- | -- |
| PSU1 | OK | -- | -- |

## Processors

Search 1 items

| ID | Health | Part number | Serial number |
|---|---|---|---|
| CPU0 | OK | PK8071305121202 | 1836120048l |

## Storage

Search 2 items

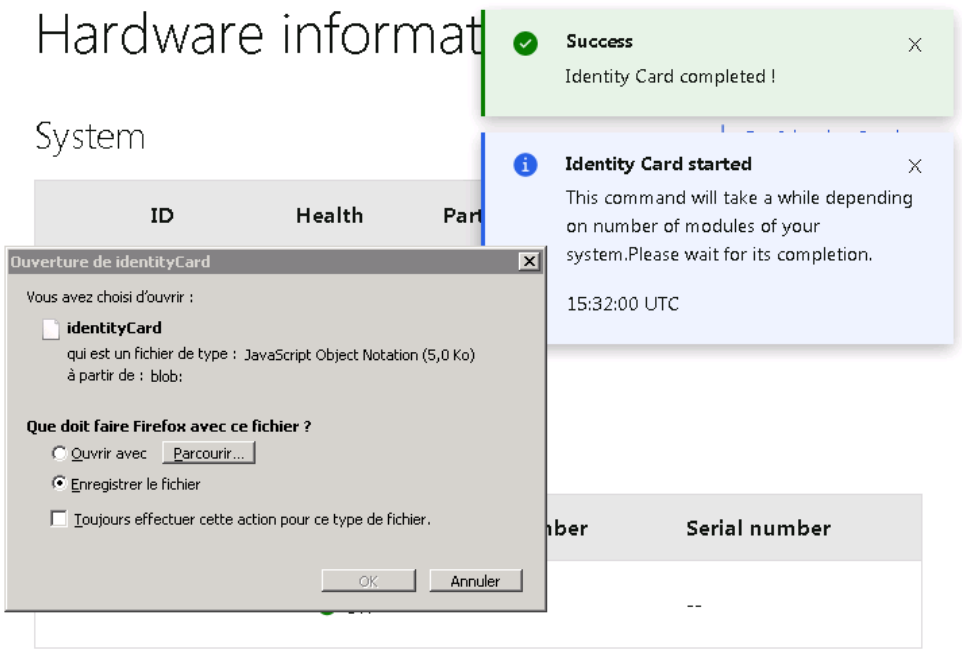
| ID | Health | Part number | Serial number |
|---|---|---|---|
| SBB_SATA_DISK_2 | Ok | -- | -- |
| SBB_SATA_DISK_3 | Ok | -- | -- |

## BMC manager

| ID | Health | Part number | Serial number |
|---|---|---|---|
| bmc | OK | -- | -- |

2. Click the downward pointing arrow (A) to expand the information details for a component.

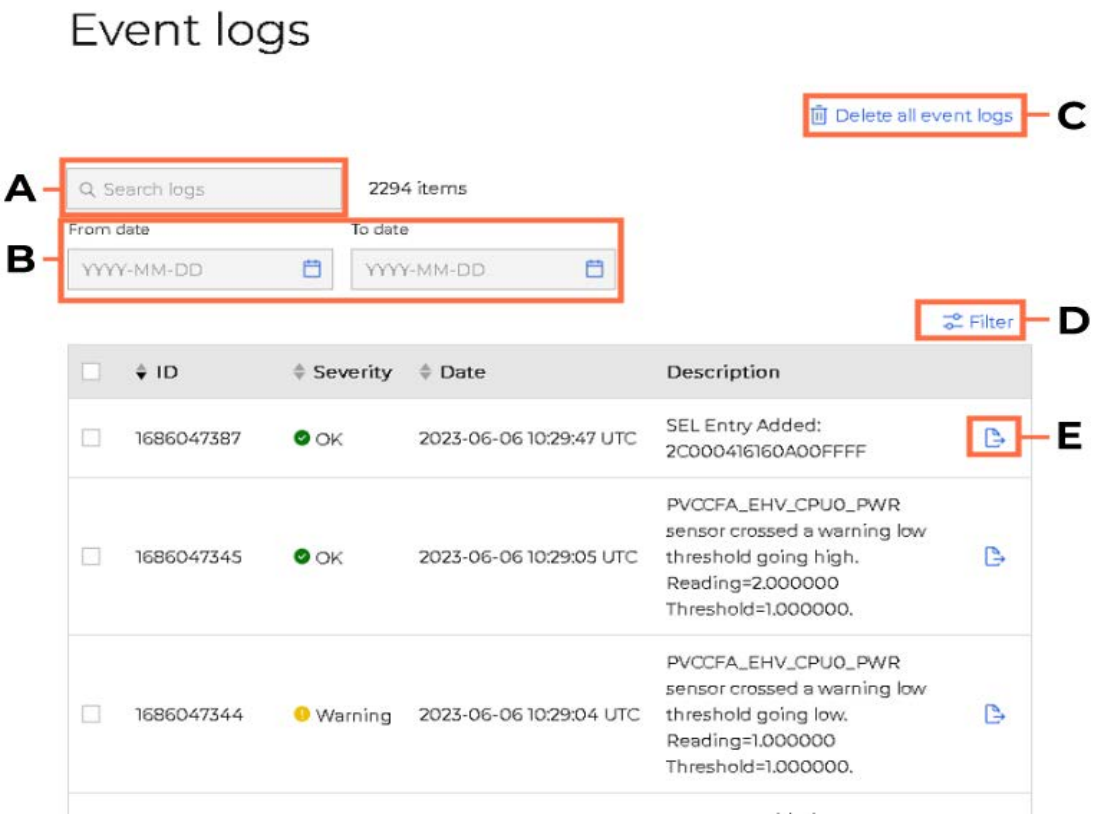
3. Click **Get Identity Card (B**) to obtain the hardware information as an identity card in the .json format.



## 2.2. Checking event logs

### Displaying event logs

From the **Health** tab, click **Event logs**. The **Event logs** page opens.




| Mark | Description |
|---|---|
| A | Alphabetical search |
| B | Date range search |
| C | Log deletion |
| D | Severity filter |
| E | Export of log to a json file |

### Filtering event logs

Enter one or more search criteria in the alphabetical search (A), date range (B) and severity (D) fields to filter the event logs displayed.

### Exporting event logs

Click the arrow (E) to export an event log to a json file.

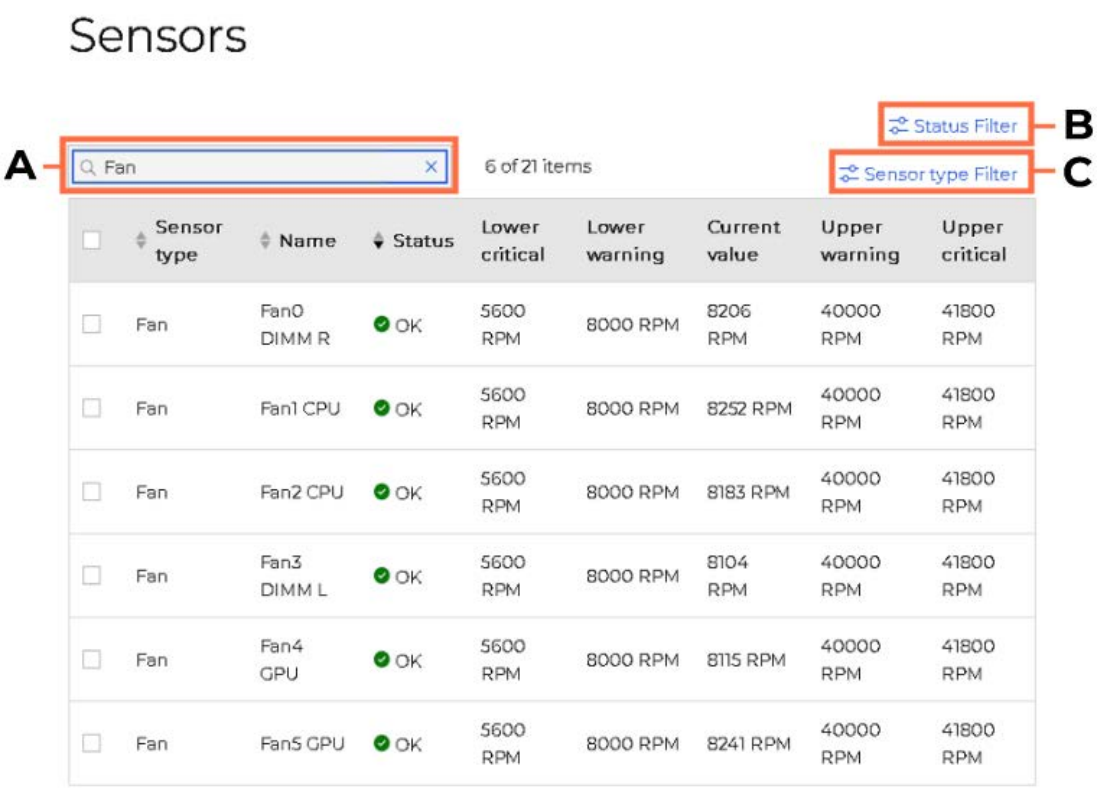
### Deleting event logs

Click (C) to delete all event logs.

## 2.3. Checking the sensors

### Displaying sensors

From the **Health** tab, click **Sensors**. The **Sensors** page opens.




| Mark | Description |
|---|---|
| A | Alphabetical search |
| B | Status filter |
| C | Sensor type filter |

### Filtering sensors

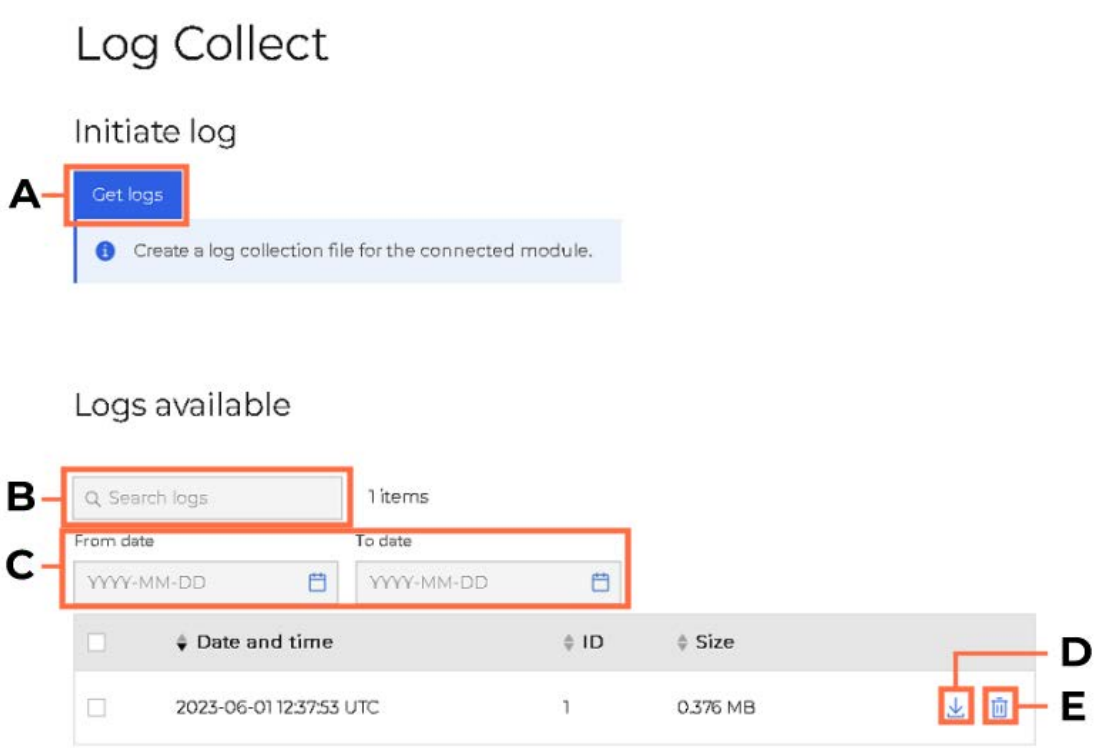
Enter one or more search criteria in the alphabetical search (A), date range (B) and severity (C) fields to filter the sensors displayed.

## 2.4. Collecting Logs

A log file is a collection of the logs for the connected server.

### Displaying logs

From the **Health** tab, click **Log Collect**. The **Log Collect** page opens.




| Mark | Description |
|---|---|
| A | Log file creation |
| B | Alphabetical search |
| C | Data range search |
| D | Log file download |
| E | Log file deletion |

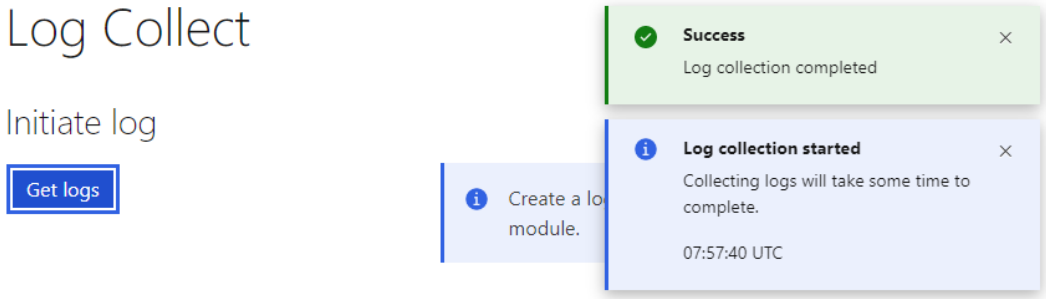
### Filtering logs

Enter the search item (B) and / or the date range (C) to filter the log files displayed.

### Collecting logs

| | |
|---|---|
| **Note** | Due to space restrictions, it is advisable to delete the existing logs before perform a new log collect. |

Click **Get logs** (A) to create a new log collection.




### Exporting event logs

Click the arrow (D) to download a log file.

### Deleting event logs

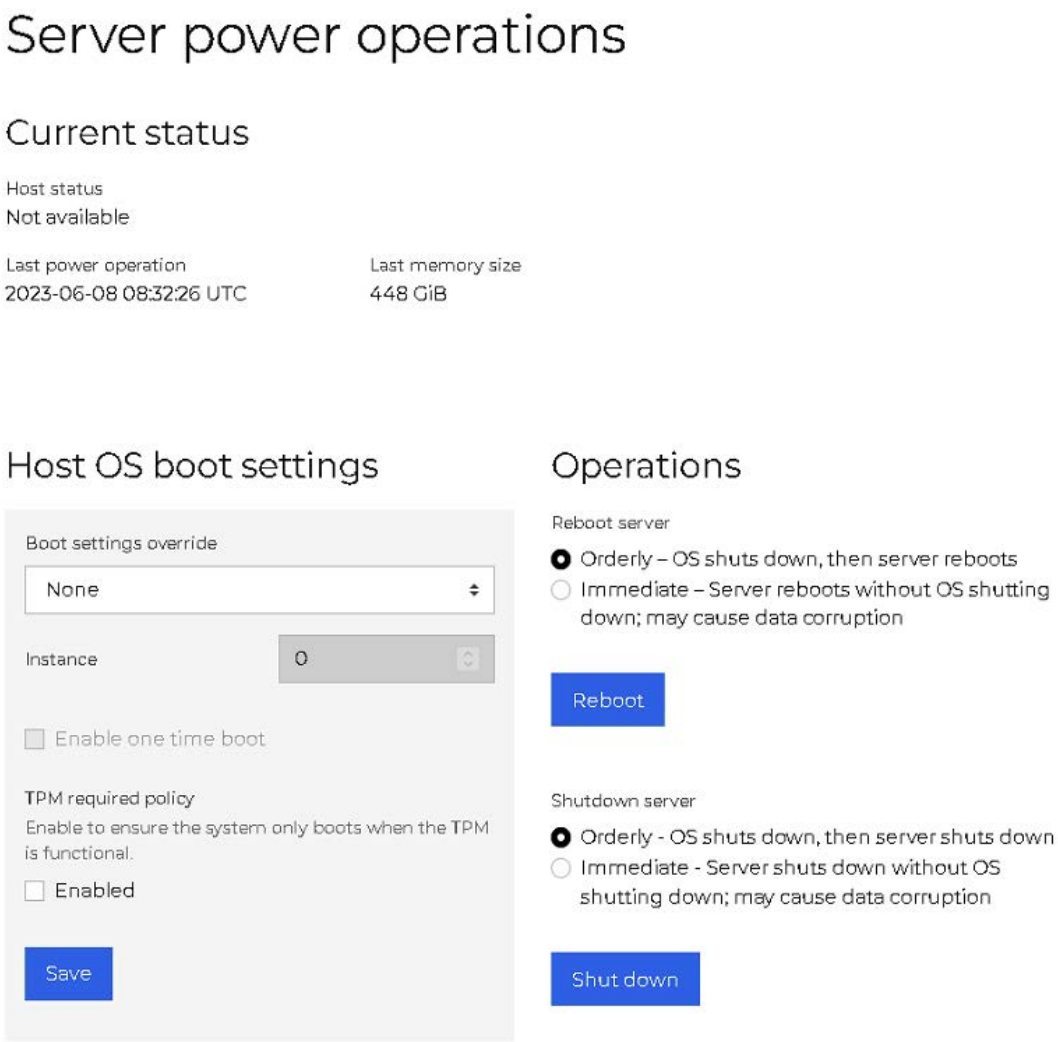
Click (E) to delete the log file.

# Chapter 3. Controlling the system

## 3.1. Managing server power operations

### 3.1.1. Power management features overview

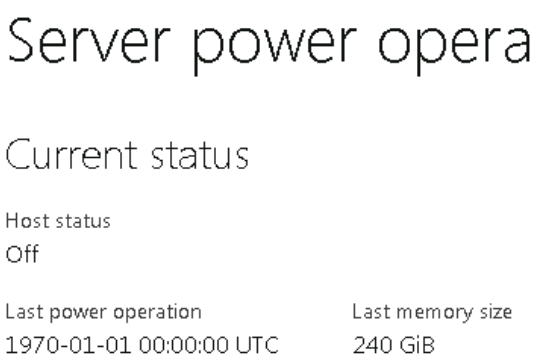
From the **Control** tab, click **Server power operations**. The **Server power operations** page opens.



| Current Status | |
|---|---|
| Host status | ■ On<br>■ Off<br>■ Not available |
| Last power operation | Date and time of last power operation |
| Last memory size | Memory size detected by the BIOS during last boot |
| **Host OS boot settings** | |
| Boot Setting Override | ■ None<br>■ Pxe - Boots from a PXE server<br>■ Hdd - Boots from a hard disk<br>■ Diags - Boots from the diagnostic partition<br>■ BiosSetup - Boots from the BIOS menu<br>■ Usb - Boots from a USB key |
| Enable one time boot | Select to apply the boot setting once |
| Enable button for TPM Required Policy | Ensures the system will only boot if the TPM is fully functional. This feature can be enabled or disabled with the Enabled button |
| Save button | Saves the Host OS boot settings |
| **Operations** | |
| Power on button | Only visible when the server power status is Off<br>Powers on the server |
| Reboot server | Only visible when the server power status is Running<br>■ Orderly - Shuts down the operating system before the server reboots<br>■ Immediate - Server reboots immediately without the operating system shutting down. **N.B. Risk of data loss and corruption**<br>Reboot button - Reboots the server applying the reboot option selected |
| Shutdown server | Only visible when the server power status is Running<br>■ Orderly - Shuts down the operating system before the server shuts down<br>■ Immediate - Server shuts down immediately without the operating system shutting down. **N.B. Risk of data loss and corruption**<br>Shut down button - Shuts down the server applying the shut down option selected |

### 3.1.2. Checking Power State

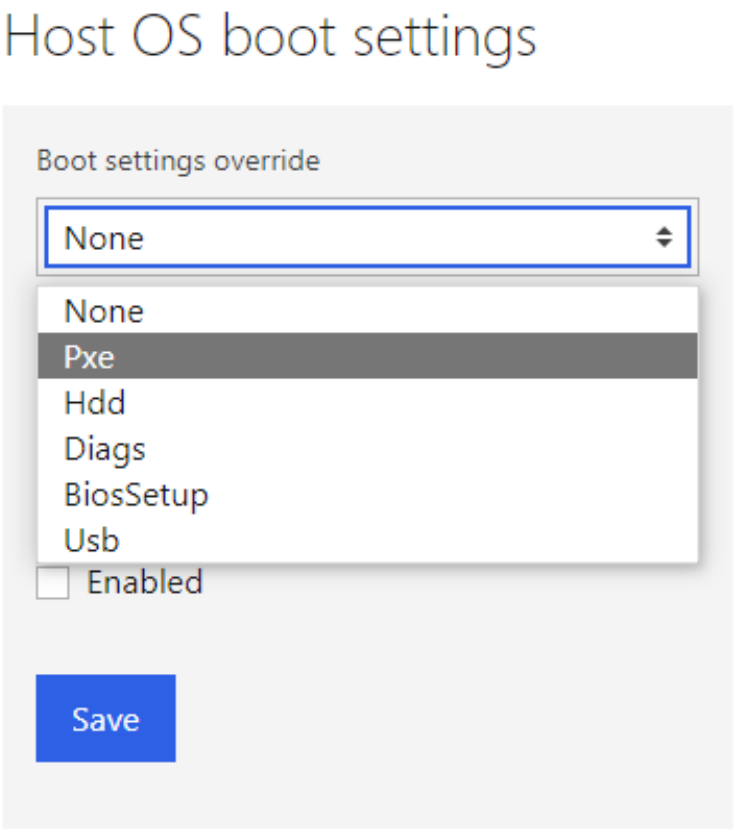
From the **Control** tab, click Server power operations. The **Server power operations** page opens.




| Current Status | |
|---|---|
| Host status | ■ On<br>■ Off<br>■ Not available |
| Last power operation | Date and time of last power operation |

### 3.1.3. Setting boot options

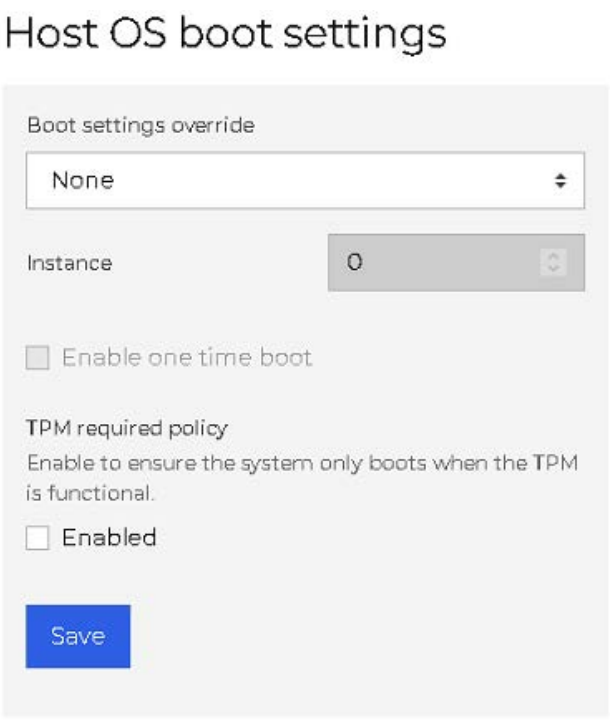
1. From the **Control** tab, click **Server power operations**. The **Server power operations** page opens.
2. In the **Host OS boot settings** section, select the boot setting required from the boot setting override drop-down list.




| Host OS boot settings | |
|---|---|
| Boot Setting Override | ■ None<br>■ Pxe - Boots from a PXE server<br>■ Hdd - Boots from a hard disk<br>■ Diags - Boots from the diagnostic partition<br>■ BiosSetup - Boots from the BIOS menu<br>■ Usb - Boots from a USB key |

3. If required, click **Enable one time boot** to apply the boot setting once.

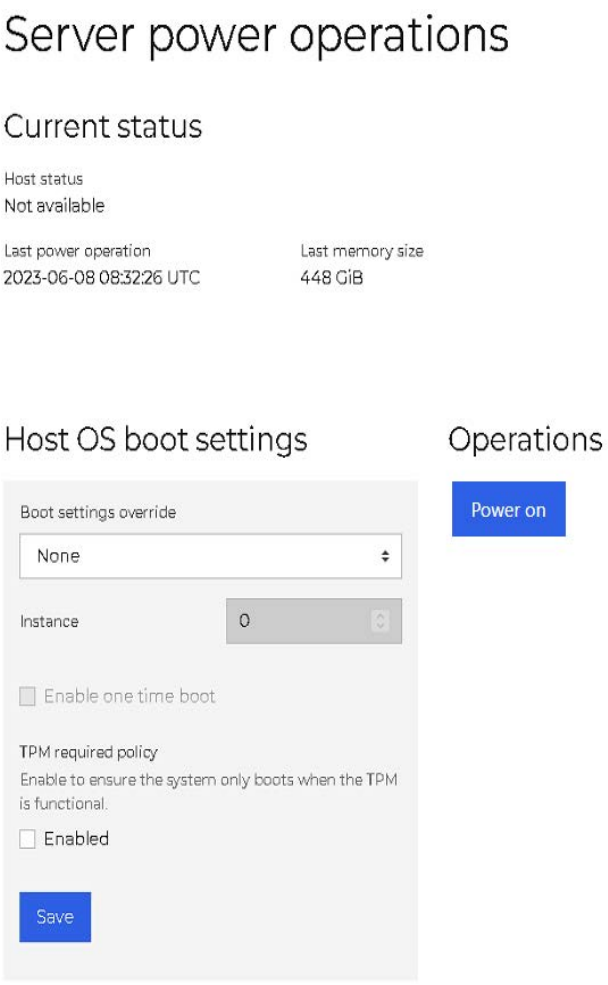
4. If required, enable the **TPM required policy**, so that the system only boots when the Trusted Platform Module (TPM) is functional.



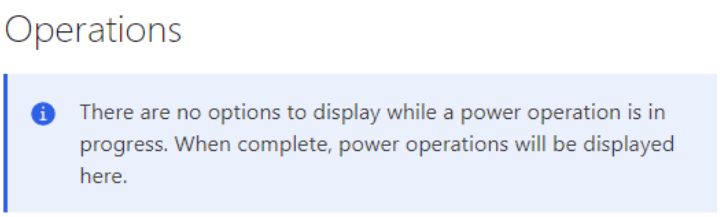

5. Click **Save**.

### 3.1.4. Powering on the server

1. From the **Control** tab, click **Server power operations**. The **Server power operations** page opens.
2. In the **Operations** section, click **Power on**.



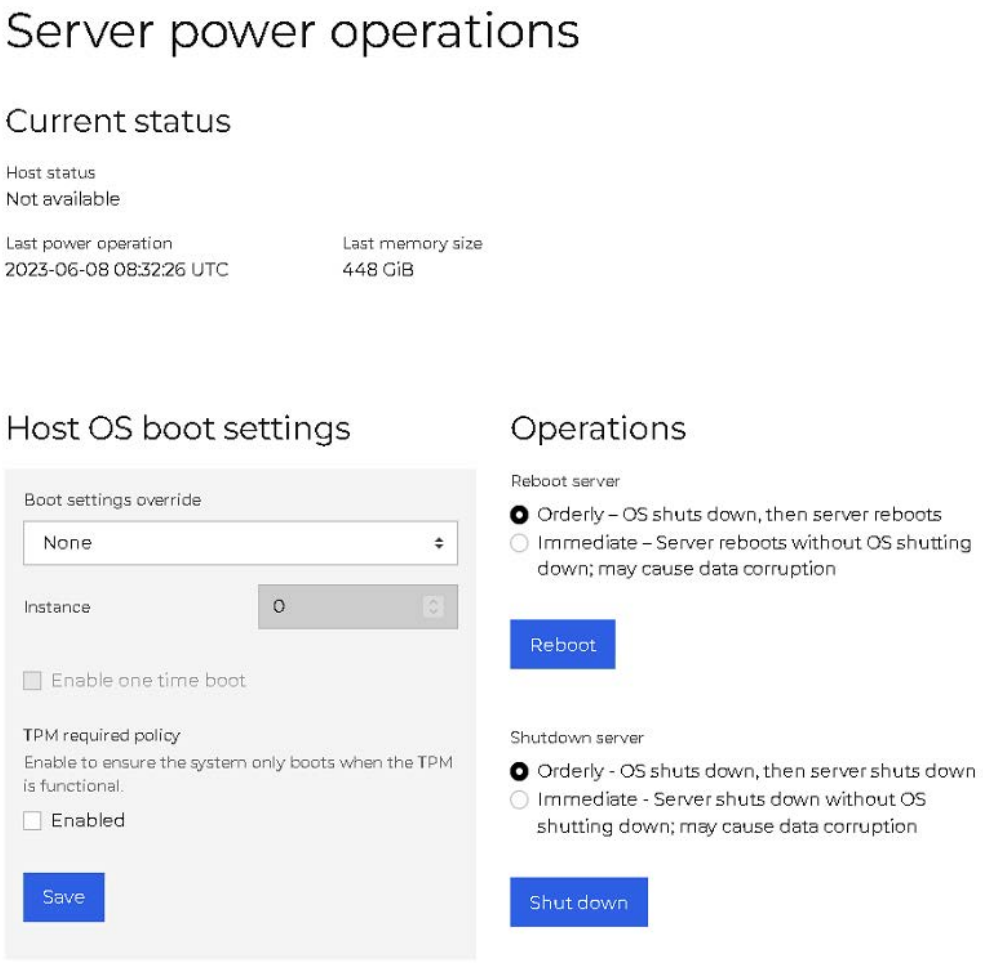

A message is displayed.




**Note** After initiating the power on of the system, there is a 30 second delay before the update of the host power status to avoid sensor fluctuation. It is therefore necessary to wait 30 seconds before refreshing the Server power operations page of the Server Hardware Console (SHC) to see the updated power status after a power on.

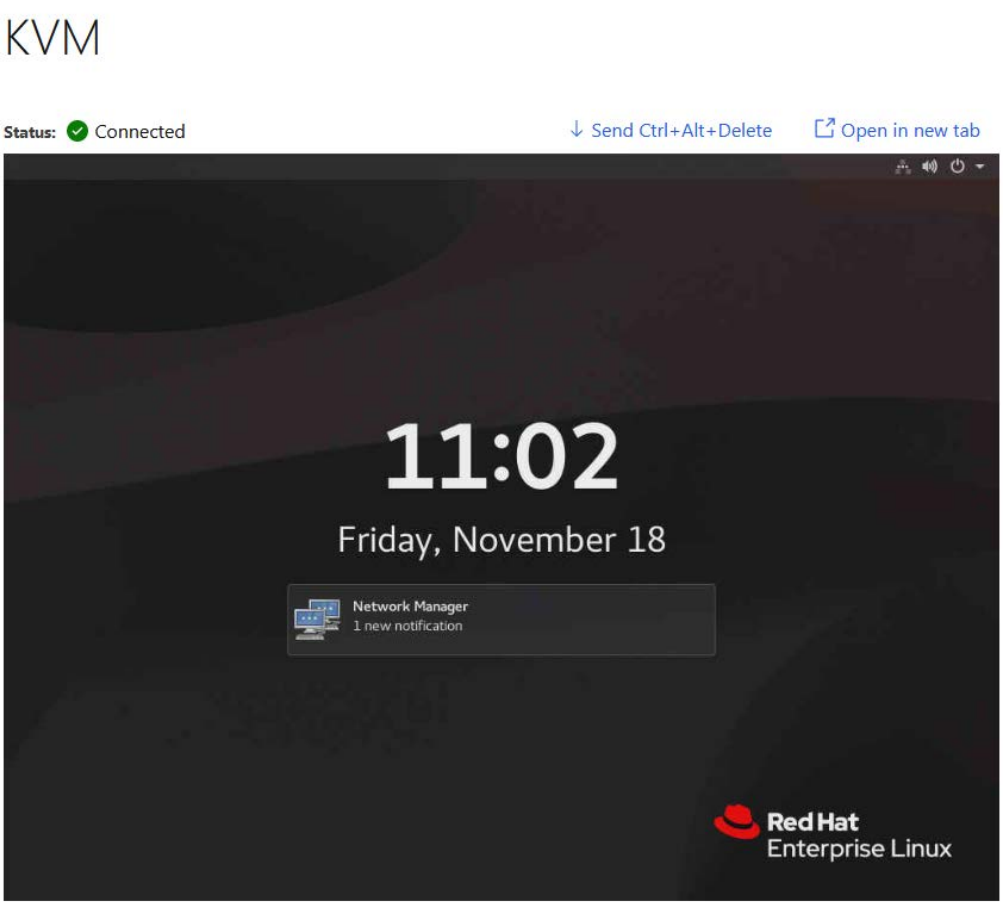
### 3.1.5. Rebooting or shutting down the server

1. From the **Control** tab, click **Server power operations**. The **Server power operations** page opens.
2. In the **Operations** section, select the mode and click **Reboot** or **Shutdown**.



## 3.2. Connecting to the Keyboard, Video, Mouse (KVM)

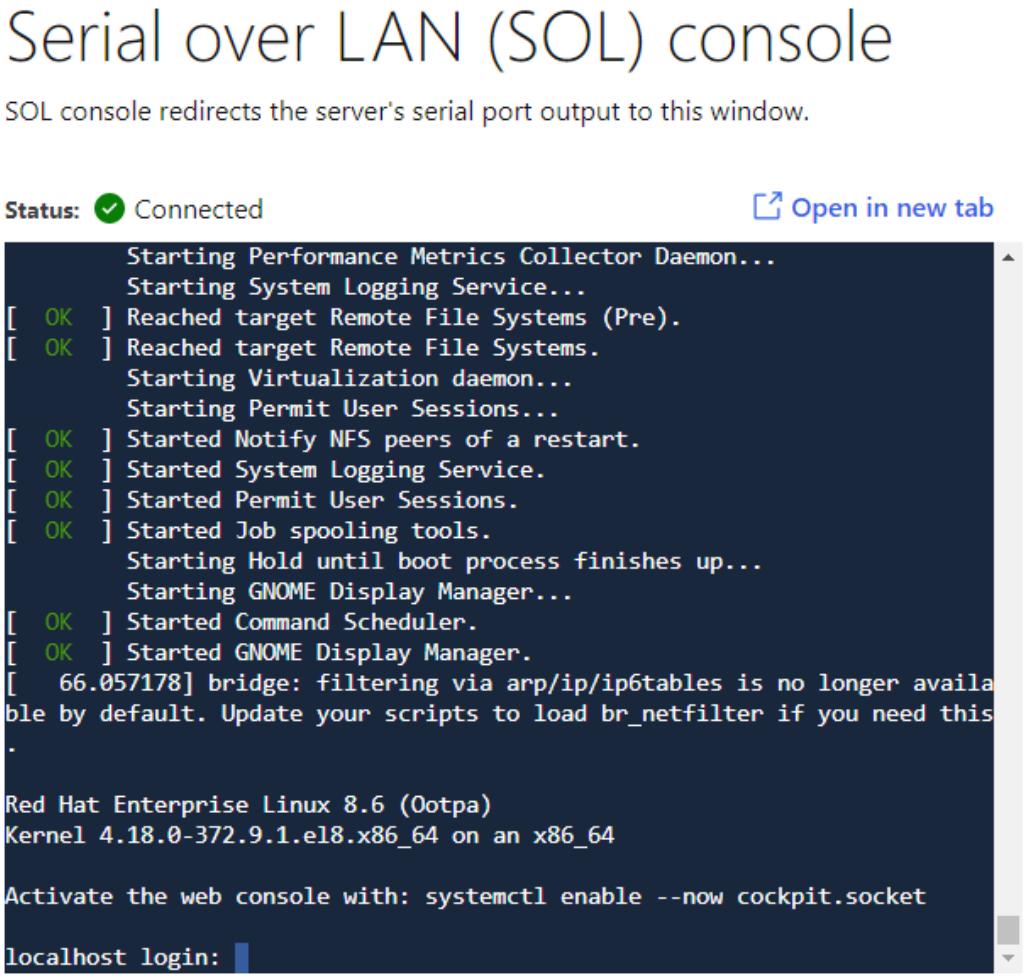
From the **Control** tab, click **KVM**. The **KVM** page opens.




**Note** The KVM keyboard layout can be configured with the **KVM settings** feature.

## 3.3. Connecting to the Serial Over LAN (SOL) console

1. From the **Control** tab, click **SOL console**. **The Serial over LAN console** page opens.



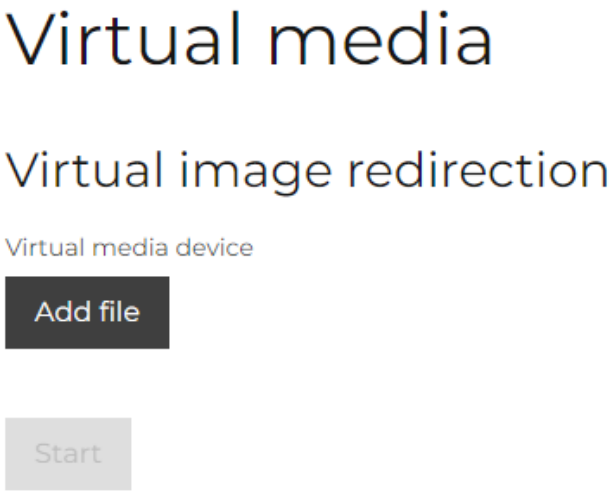

2. If required, click the **Open in new tab** link to open the console in a new window.

**Note** To access the BIOS settings click on the SOL screen and press the ESC key at the same time.

## 3.4. Creating a virtual media session

**Note** Only users with Administrator privilege have access to this feature.

1. From the **Control** tab, click **Virtual media**. The **Virtual media** page opens.

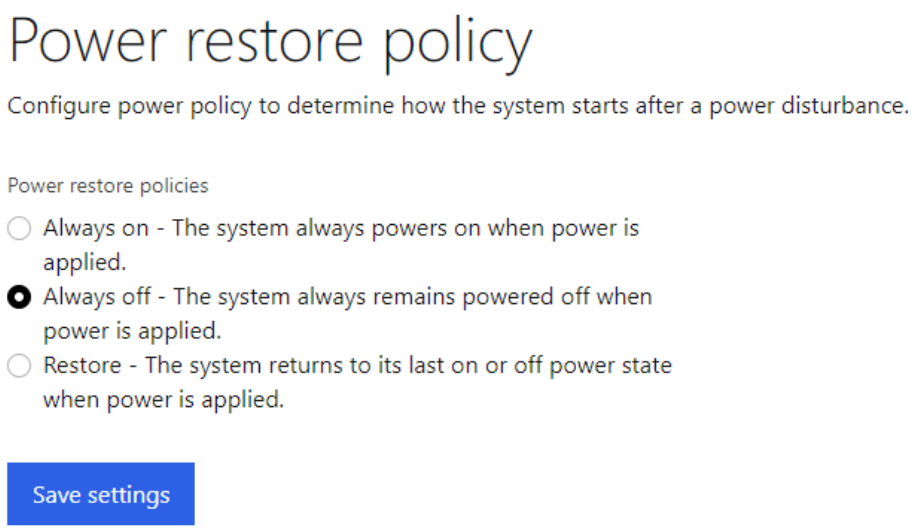



2. Click **Add** file.
3. Select an ISO file for the boot.
4. Click **Start**.

## 3.5. Configuring the power restore policy

The power restore policy determines how the system starts after a power disturbance.

1. From the **Control** tab, click **Power restore policy**. The **Power restore policy** page opens.




2. Select the policy.

| Power restore policy | Description |
|---|---|
| Always On | The system always powers on when power is applied |
| Always Off | The system always remains powered off when power is applied |
| Last state | The system returns to its last power state when power is applied |

3. Click **Save Settings**.

## 3.6. Enabling or disabling the server identification LED

1. From the **Control** tab, click **Server ID LED**. The **Server ID LED** page opens.


2. Turn the server indicator LED on to identify the server.

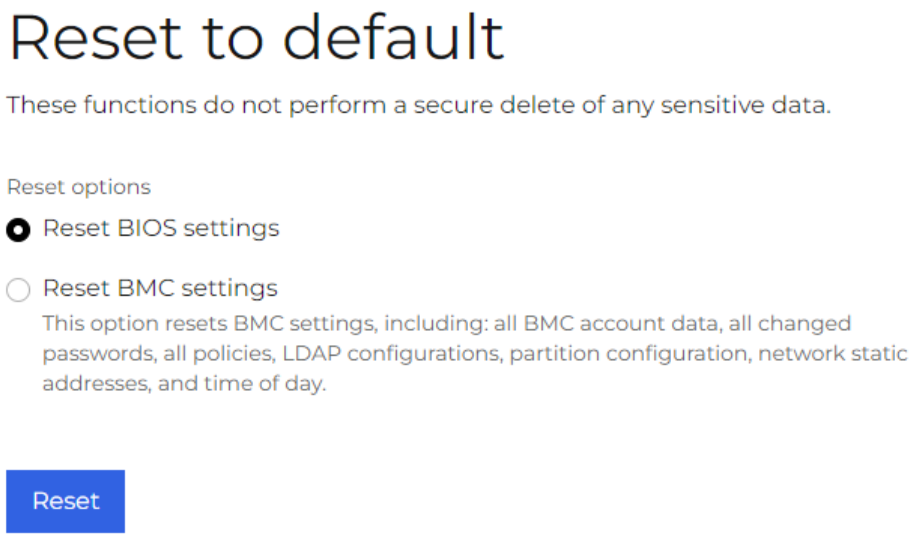
**See** The Description Guide to locate the green identification LED at the front of the server.

## 3.7. Resetting settings to default values

| | |
|---|---|
| **Important** | **The server must be off before resetting the setting values as indicated below.** |

| | |
|---|---|
| **Note** | Only users with SupportUser privilege have access to this feature. |

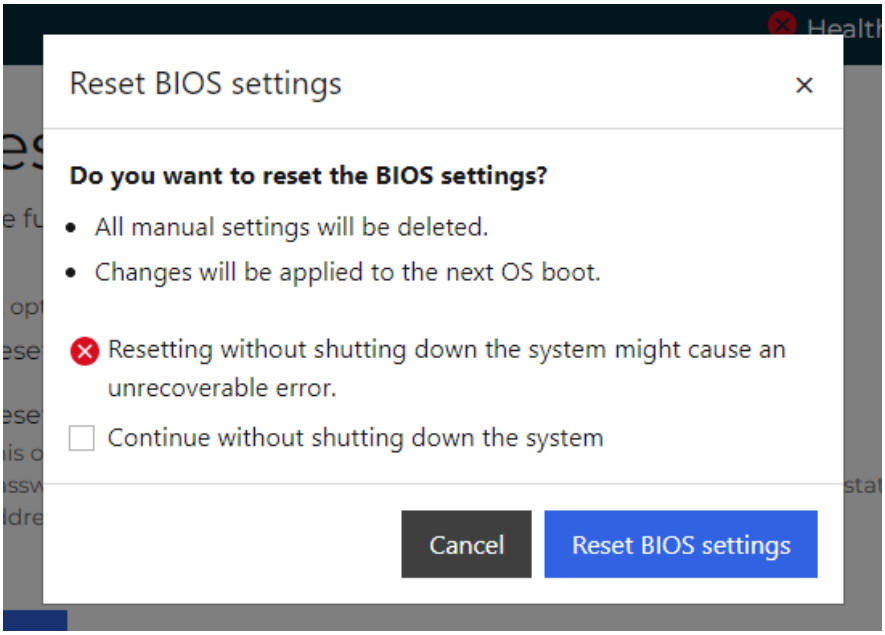
1. From the **Control** tab, click **Reset to default**. The **Reset to default** page opens.



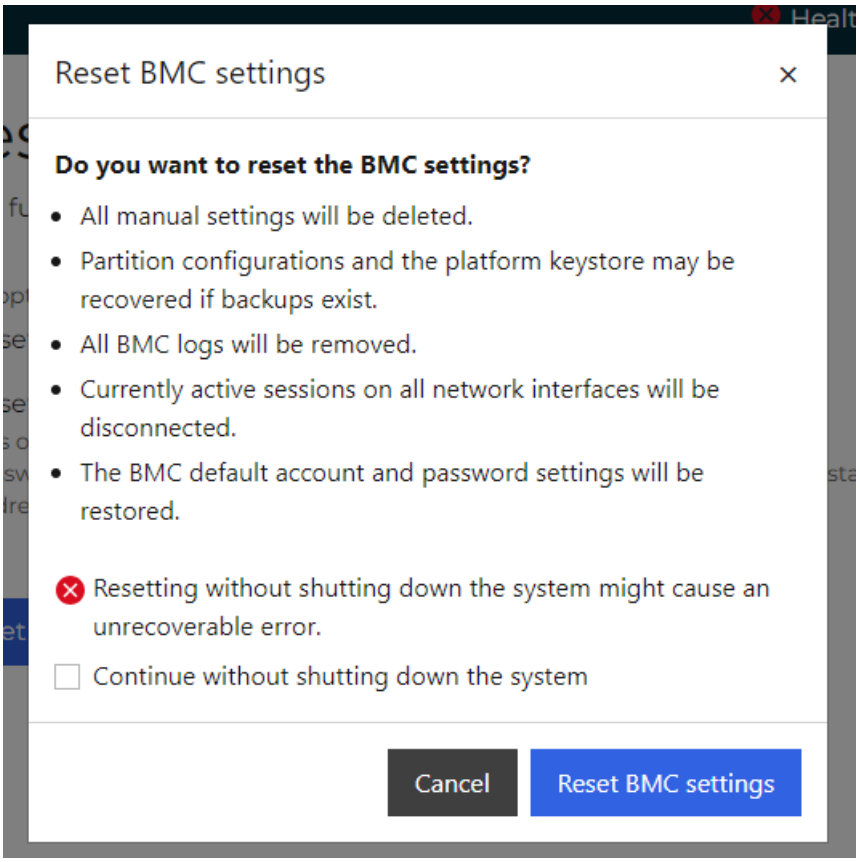

2. Select the components to reset and click **Reset**.

3. Carefully read the caution points.

**Reset BIOS settings**




**Reset BMC settings**



4. Check the option **Continue without shutting down the system** if needed to go on.

5. Click **Reset BIOS settings** or **Reset BMC settings** depending on the function performed.

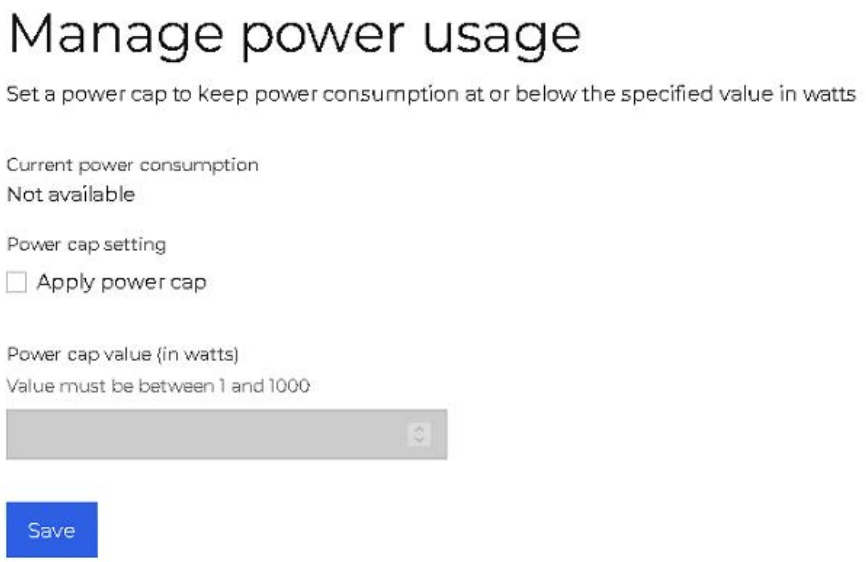
6. Use the SupportUser default account to connect to the SHC after the **Reset of the BMC settings**.

| **SHC login** | |
|---|---|
| Username | Default: **supportuser** |
| Password | Default: **support@eviden** |

## 3.8. Managing power usage

**Note** Only users with Administrator privilege have access to this feature.

1. From the **Control** tab, click **Manage power usage**. The **Manage power usage** page opens.



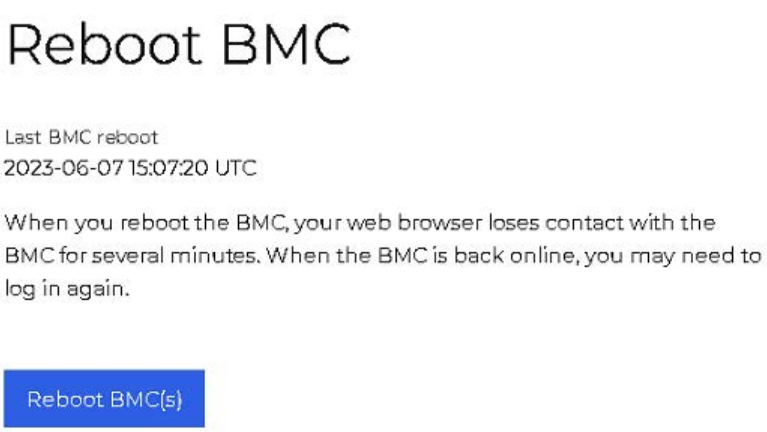

2. To set a power cap:
   a. Select **Apply power cap**.
   b. Set the power cap value in the **Power Cap Value (in watts)** box.
3. Click **Save**.

**Note** The power consumption and power cap value are indicated on the Overview page.

## 3.9. Rebooting the BMC

**Note** Only users with Administrator privilege have access to this feature.

1. From the **Control** tab, click **Reboot BMC**. The **Reboot BMC** page opens.



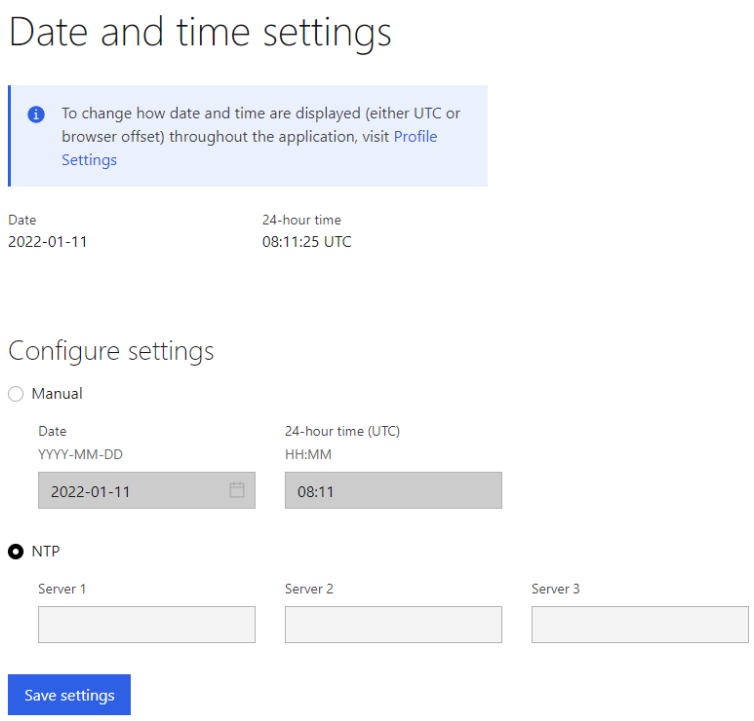

2. Click the **Reboot BMC** button and confirm.

   A success message is displayed.

# Chapter 4. Configuring the management controller

## 4.1. Setting the date and time

1. From the **Configuration** tab, click **Date and time settings**. The **Date and time settings** page opens.

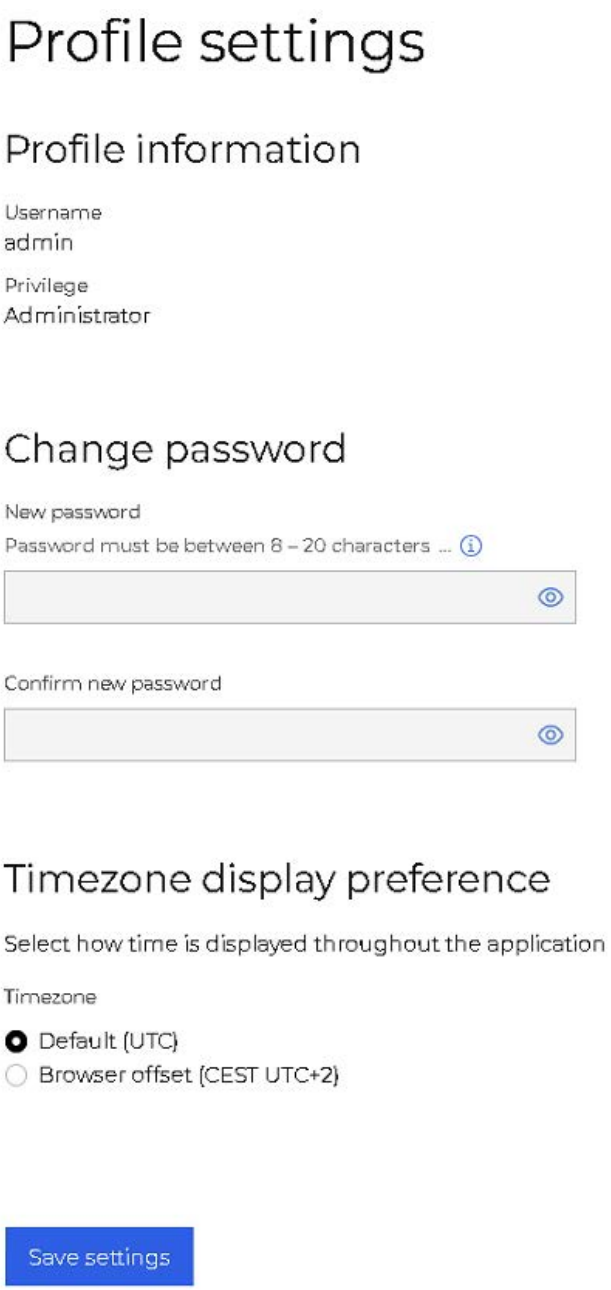



2. Select the date and time configuration:
   - Manual
   - Network Time Protocol (NTP) servers

**Note** It is recommended to configure an NTP server. Time and date settings configured manually will be lost when the BMC is reset.

3. Click **Save settings.**

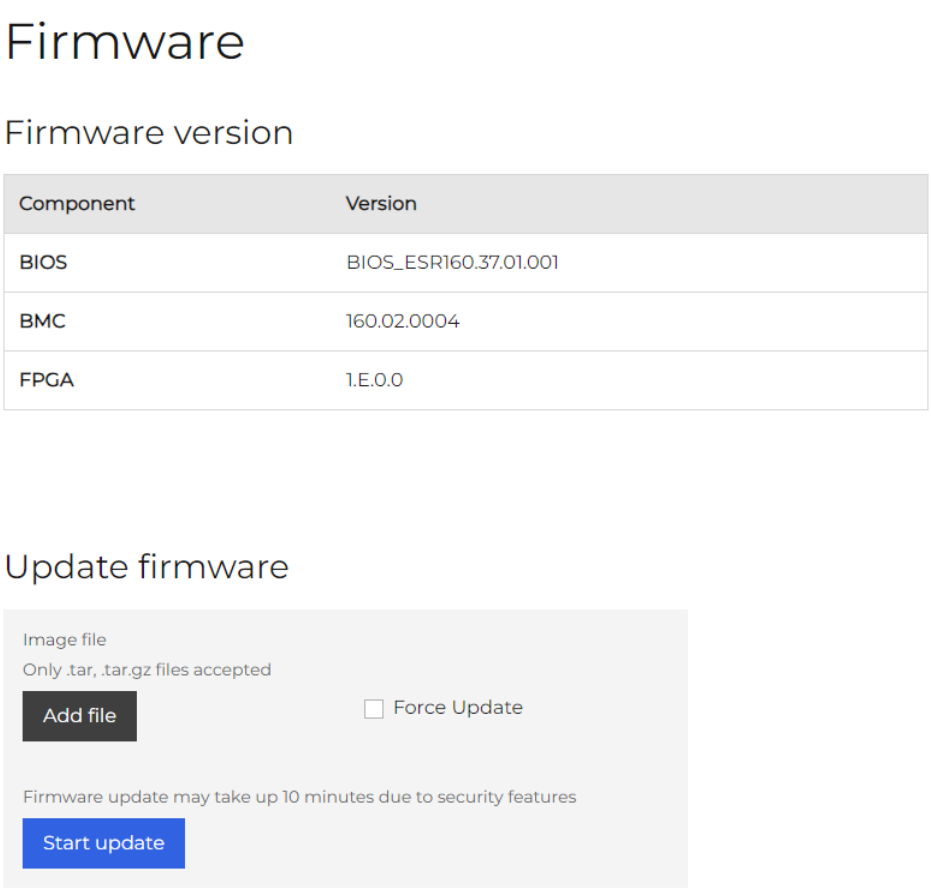
4. Click **Profile Settings** at the top of the page. The **Profile settings** page opens.




5. Select the timezone display:
   - Default
   - Browser offset
6. Click **Save settings**.

## 4.2. Managing firmware versions

1. From the **Configuration** tab, click **Firmware**. The **Firmware** page opens.




2. To update a firmware version, click **Add file** to select the firmware version file, and click **Start update**.

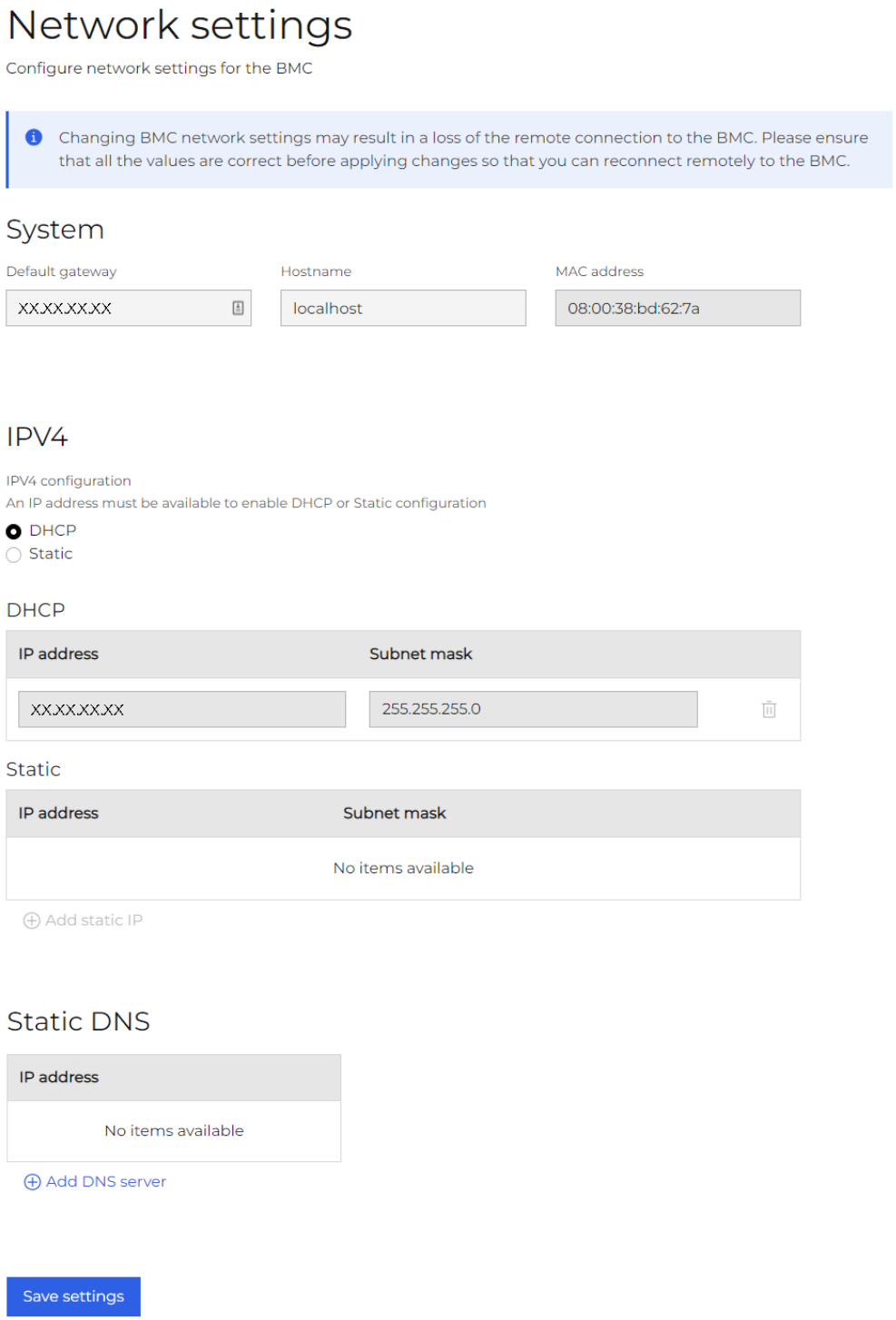
**Notes**

- It is strongly recommended to power off the system before updating the BIOS and FPGA firmware.
- After a BIOS firmware update, the boot option is reset to PXE. It is therefore necessary to change the boot option after the update if PXE is not desired boot option.
- Select the **Force Update** box to reinstall the same firmware version.

## 4.3. Configuring network settings

**Note** The server hostname may be modified in the screen below.

1. From the **Configuration** tab, click **Network settings**. The **Network settings** page opens.

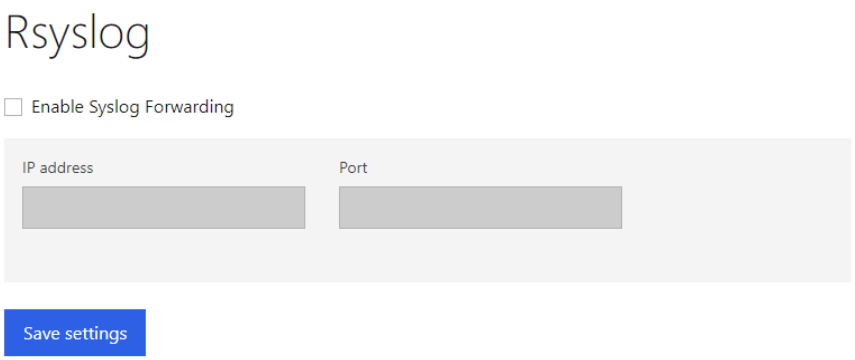


| System | |
|---|---|
| Default gateway | Default gateway IP address |
| Hostname | The server host name |
| Mac address | The server MAC address |
| **IP4V** | |
| DHCP | When enabled, the server IP address is retrieved from a DHCP server |
| Static | When enabled, the server IP address is static |
| **DHCP** | |
| IP address | Server IP address |
| Subnet mask | Sub-net mask for the host |
| **Static** | |
| IP address | Server IP address |
| Subnet mask | Sub-net mask for the host |
| Add static IP | Click this button to add a static IP address |
| **Static DNS** | |
| IP address | DNS server IP address |
| Add DNS server | Click this button to add a DNS server address |

2. Enter the system parameters: default gateway and hostname.
3. Select IPV4 configuration: DHCP or Static.
4. Add a static IP address, if required.
5. Add a DNS server if required.
6. Click **Save settings**.

## 4.4. Configuring Rsyslog

1. From the **Configuration** tab, click **Rsyslog**. The **Rsyslog** page opens.

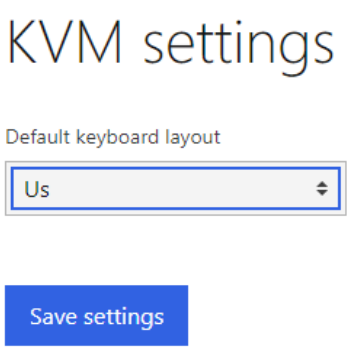



| Rsyslog | |
|---|---|
| Enable Syslog Forwarding | When selected, this option allows events to be sent by the syslog protocol on a Linux platform, in order to centralize all the events |
| IP address | Syslog server IP address |
| Port | Syslog server listening port |

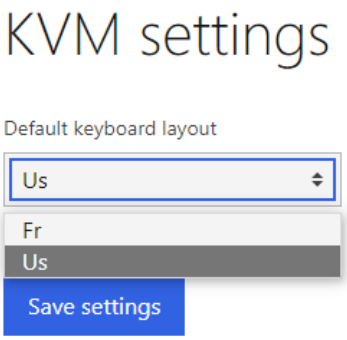
2. Select **Enable Syslog Forwarding** and complete the fields as required.
3. Click **Save settings**.

## 4.5. Configuring KVM settings

1. From the **Configuration** tab, click **KVM settings**. The **KVM settings** page opens.



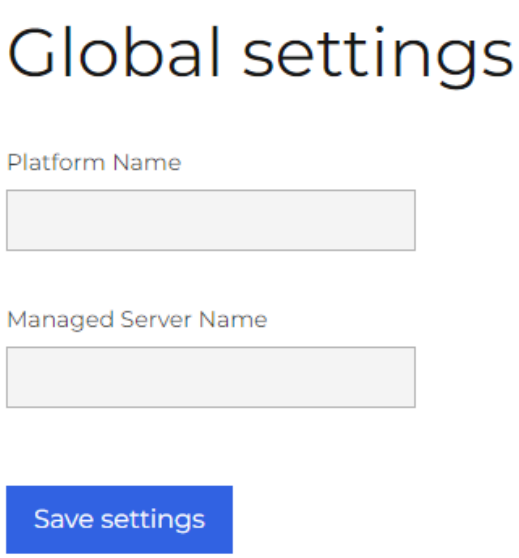

2. Select the keyboard layout language from the drop-down list.




3. Click **Save settings**.

## 4.6. Configuring Global settings

1. From the **Configuration** tab, click **Global settings**. The **Global settings** page opens.

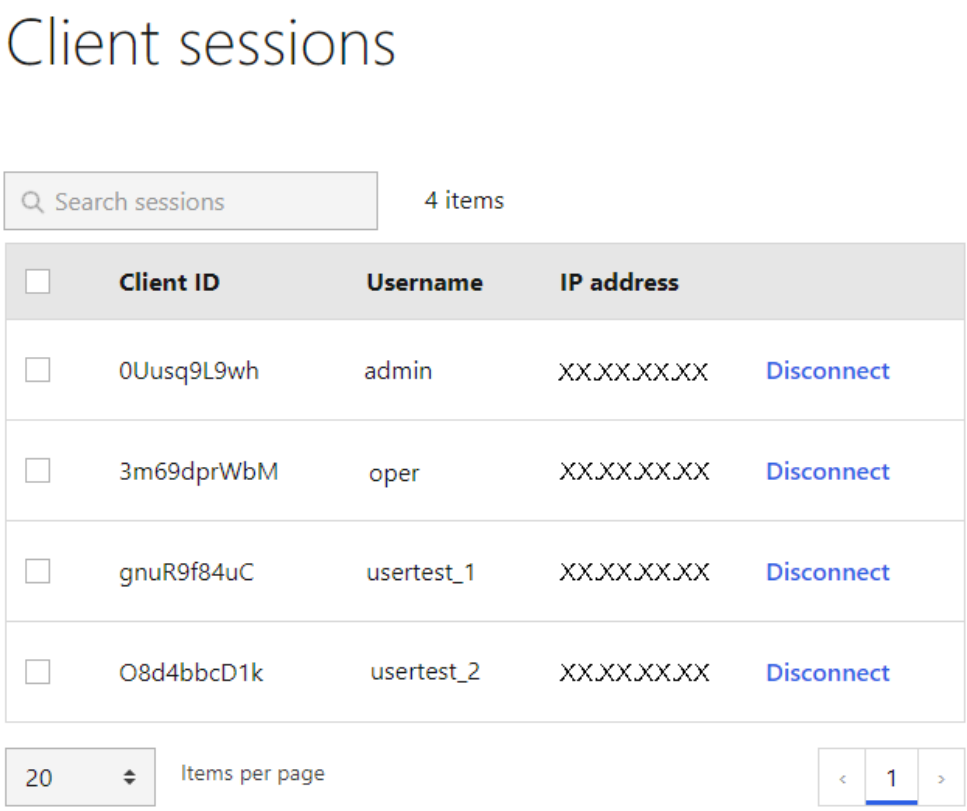



2. Complete the required fields.
3. Click **Save settings**.

# Chapter 5. Managing users

## 5.1. Managing client sessions

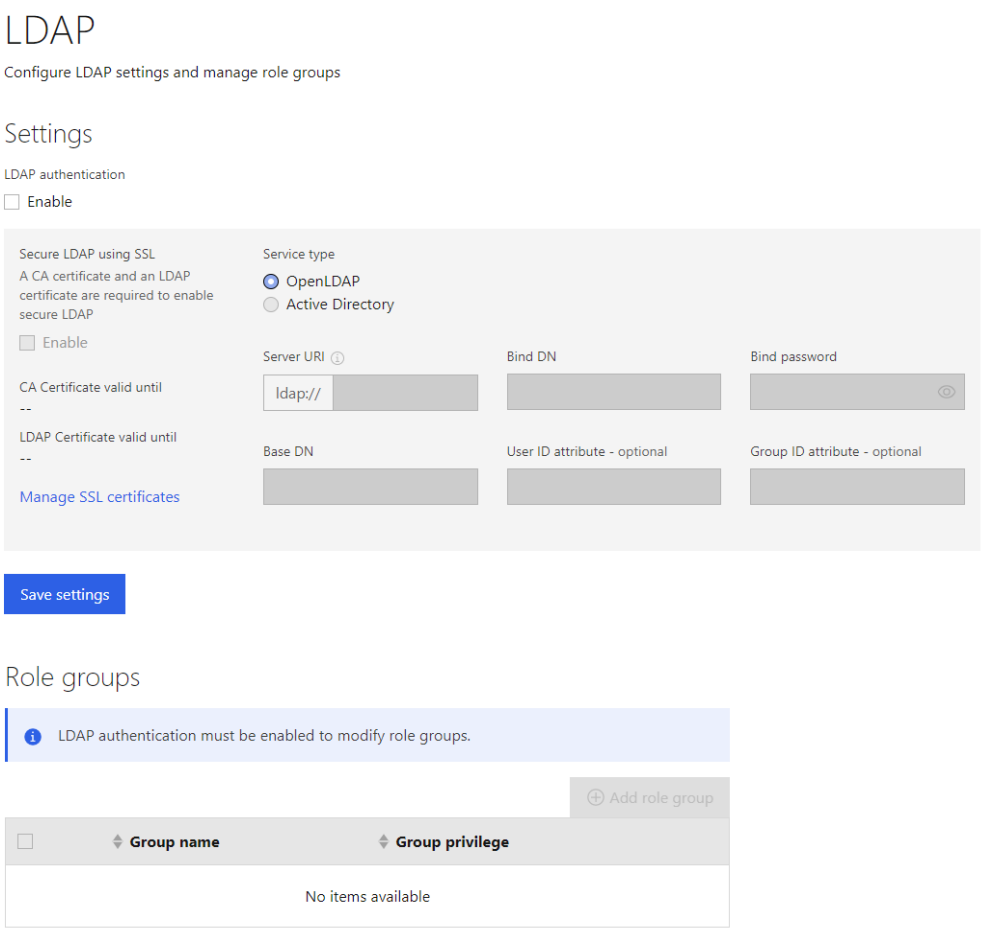
1. From the **Access control** tab, click **Client session**. The **Client sessions** page opens.




2. To disconnect the user, click **Disconnect**.

## 5.2. Configuring LDAP

1. From the **Access control** tab, click **LDAP**, the **LDAP** page opens.




| Settings | |
|---|---|
| Enable LDAP authentication | Allows LDAP authentication to be configured |
| Secure LDAP using SSL | Secures LDAP server using a Secure Socket Layer certificate |
| Manage SSL certificates | Redirects to the SSL certificates page. The link is active when LDAP authentication is enabled |
| Service type | Selects the LDAP service type:<br>■ Open LDAP<br>■ Microsoft Active Directory |
| Server URI | ldap://<LDAP Server IP> |

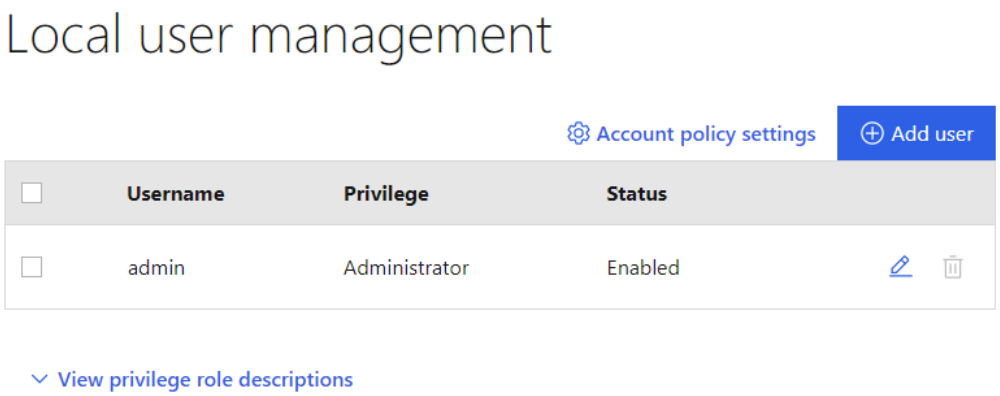
| Settings | |
|---|---|
| Bind DN | Bind Distinguished Name |
| Bind password | Bind user password |
| Base DN | Base Distinguished Name. The point from which a server will start searching for users |
| User ID attribute | The log in attribute that uniquely identifies a single user record |
| Group ID attribute | The log in attribute that uniquely identifies a group user record |
| Save settings button | Saves the configurations |
| **Role groups** | |
| Role groups enable a set of permissions to be assigned to a group of administrators or specialist users. | |
| Group name | Group name |
| Group privilege | Role assigned to the group |

2. Set the configuration and click **Save settings**.

## 5.3. Managing local users

### 5.3.1. Viewing a user list

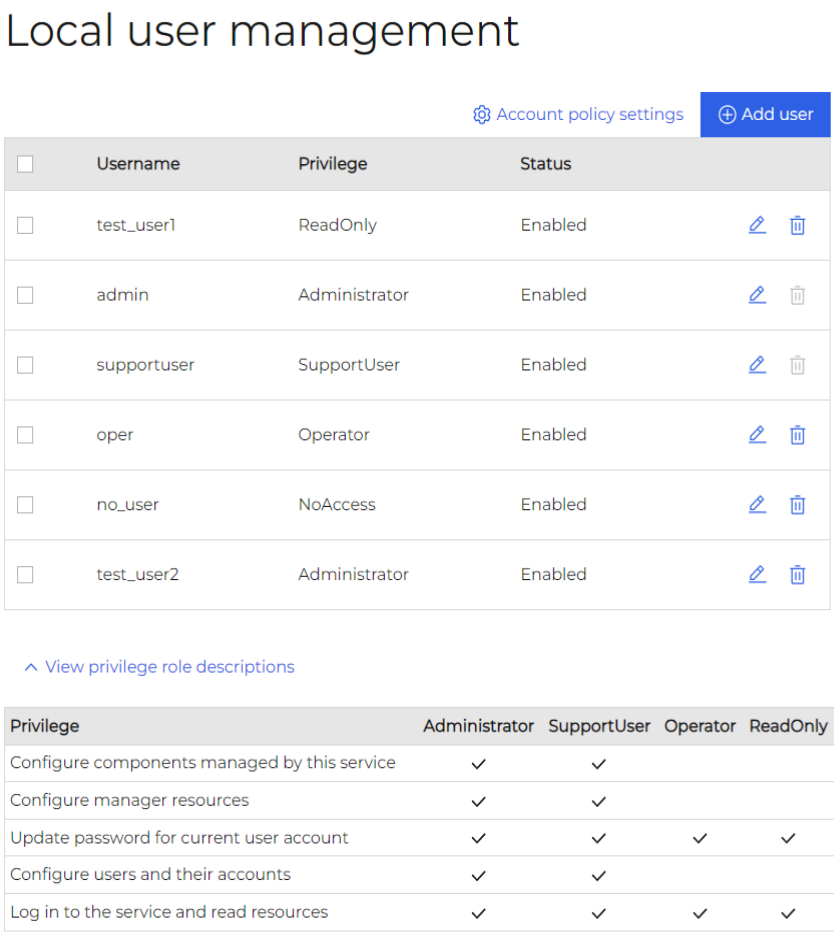
From the **Access control** tab, click **Local user management**. The **Local user management** page opens.




| Local user management | |
|---|---|
| Username | Name the user uses to log on |
| Privilege | Role assigned to the user |
| Status | When enabled, the user account is active and the user is able to log on. When disabled, the user's account is unavailable: the user's account is maintained but it is no longer possible to log on using this account |
| **Buttons** | |
|  | Edit button to display and modify the user account |
|  | Remove button to delete the user |

### 5.3.2. Viewing privilege roles

1. From the **Access** tab, click **Local user management**. The **Local user management** page opens.
2. Click **View privilege role descriptions** to display the roles.




| Privilege | Administrator | SupportUser | Operator | ReadOnly | NoAccess |
|---|---|---|---|---|---|
| Configure components managed by this service | ✓ | ✓ | | | |
| Configure manager resources | ✓ | ✓ | | | |
| Update password for current user account | ✓ | ✓ | ✓ | ✓ | |
| Configure users and their accounts | ✓ | ✓ | | | |
| Log in to the service and read resources | ✓ | ✓ | ✓ | ✓ | |

Operator users do not have access to the following SHC pages:

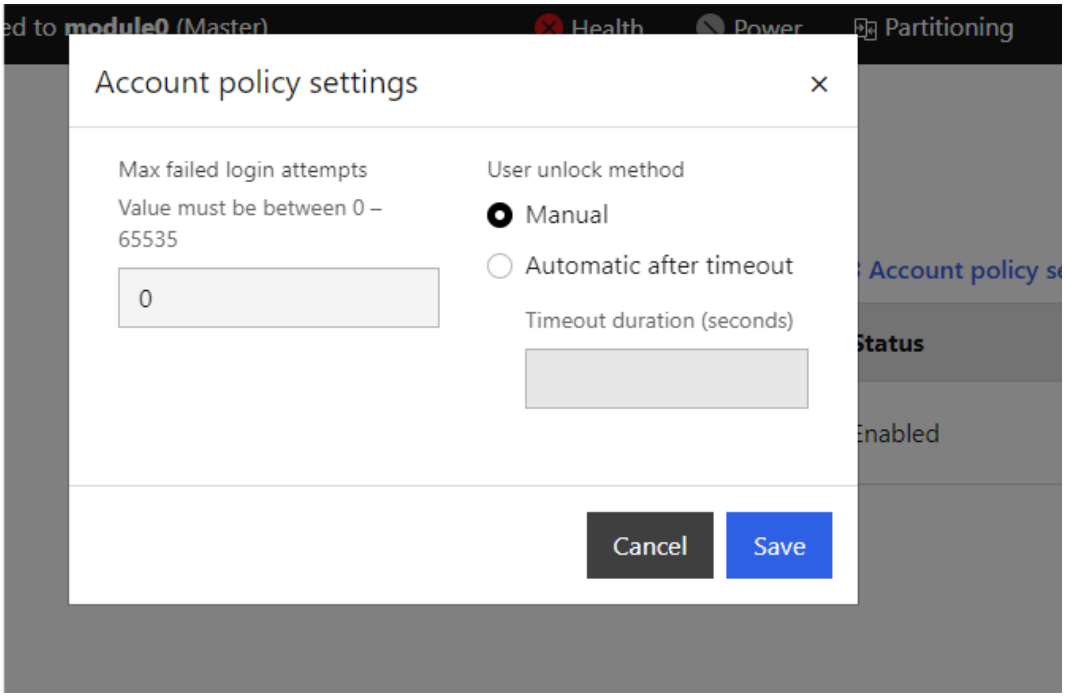
- Reset to default
- Manage power usage
- Reboot BMC
- Date and time settings
- Rsyslog
- KVM settings
- Global settings

ReadOnly users do not have access to the following SHC pages:

- KVM
- SOL console
- Reset to default
- Manage power usage
- Reboot BMC
- Date and time settings
- Rsyslog
- KVM settings
- Global settings

### 5.3.3. Setting the account policy

1. From the **Access** tab, click **Local user management**. The **Local user management** page opens.
2. Click the **Account policy settings** tab. The **Account policy settings** page opens.

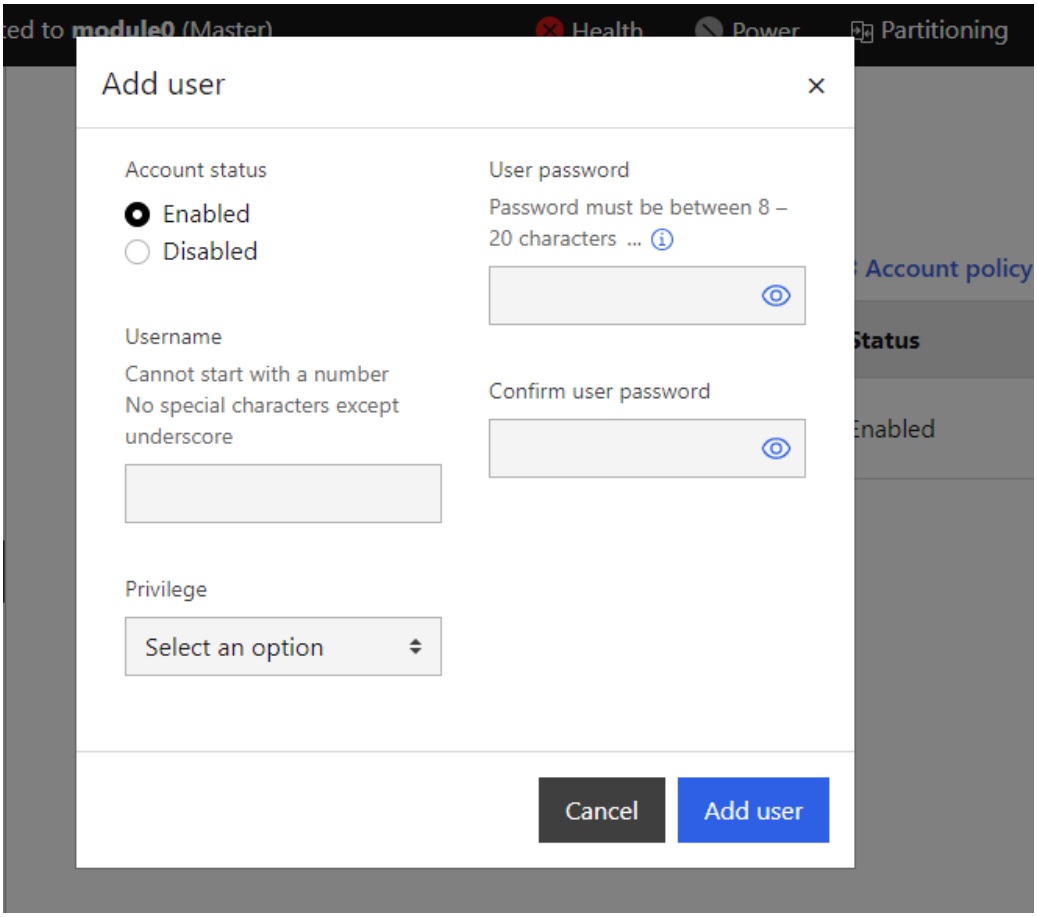



| Account policy settings | |
|---|---|
| Max failed login attempts | The number of failed login attempts allowed. The value must be set between 0 (default) and 65535 |
| Manual | A locked user account stays locked until it is unlocked manually |
| Automatic after timeout | Automatic unlock after the period set in the Timeout duration parameter |
| Timeout duration (seconds) | Period in seconds during which the user account remains locked. The minimum setting is 1 second |

3. Complete the fields as required.
4. Click **Save**.

### 5.3.4. Creating a new user account

1. From the **Access** tab, click **Local user management**. The **Local user management** page opens.
2. Click **Add user** tab. The **Add user** page opens.



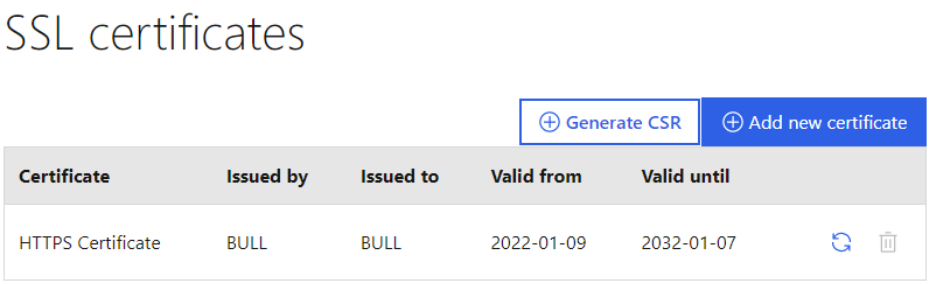
| Add user | |
|---|---|
| Account status enabled | When selected, the user account is active and the user is able to log on. This is the default status |
| Account status disabled | When selected, the user's account is unavailable |
| Username | Name the user uses to log on<br>• Names cannot start with number<br>• Special characters are not allowed except underscores |
| Privilege | Use the drop-down list to select the role to assign to the user |
| User password | The password the user will use to log on<br>▪ The password must be between 8 and 20 characters long<br>▪ The password must be a mixture of upper case letters, lower case letters, numbers and special characters<br>▪ The password must be different from the user name |
| Confirm user password | |

3. Complete the fields as required.
4. Click **Add user**. The user is created.

## 5.4. Managing SSL certificates

### 5.4.1. Viewing SSL certificates

From the **Access control** tab, click **SSL certificates**. The **SSL certificates page** opens.

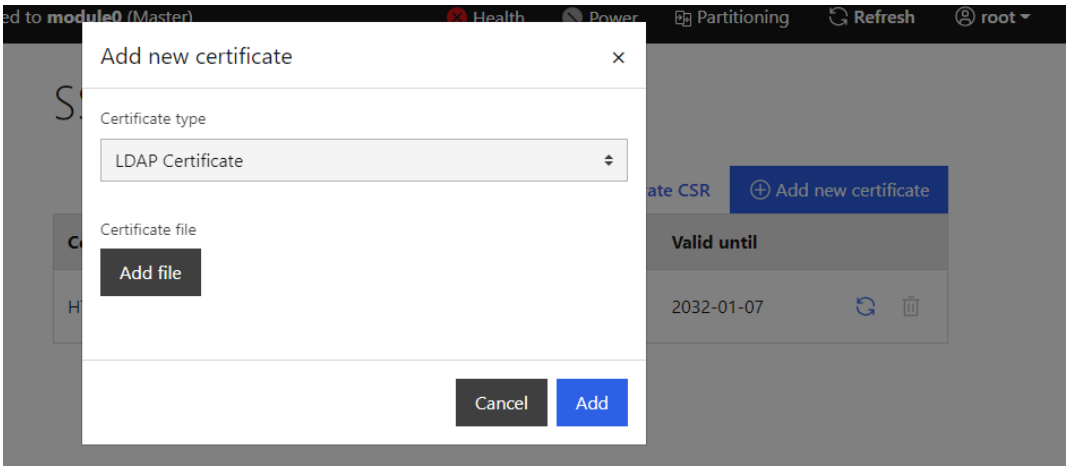



| SSL certificates | |
|---|---|
| Certificate | Certificate name |
| Issued by | Certificate details |
| Issued to | |
| Valid from | Validity period |
| Valid until | |
| **Actions** | |
|  | Remove button to delete the certificate |
|  | Refresh button to check if a more up-to-date version of the certificate is available |

### 5.4.2. Adding a certificate

1. From the **Access control** tab, click **SSL certificates**. The **SSL certificates** page opens.

2. Click the **Add new certificate** tab. The **Add new certificate** page opens.




3. Use the drop-down list to select a certificate type. There are two possible options:
   - LDAP Certificate
   - CA Certificate
4. Click **Add file** and select a certificate file.

**Note** The certificate file must be a .pem file.

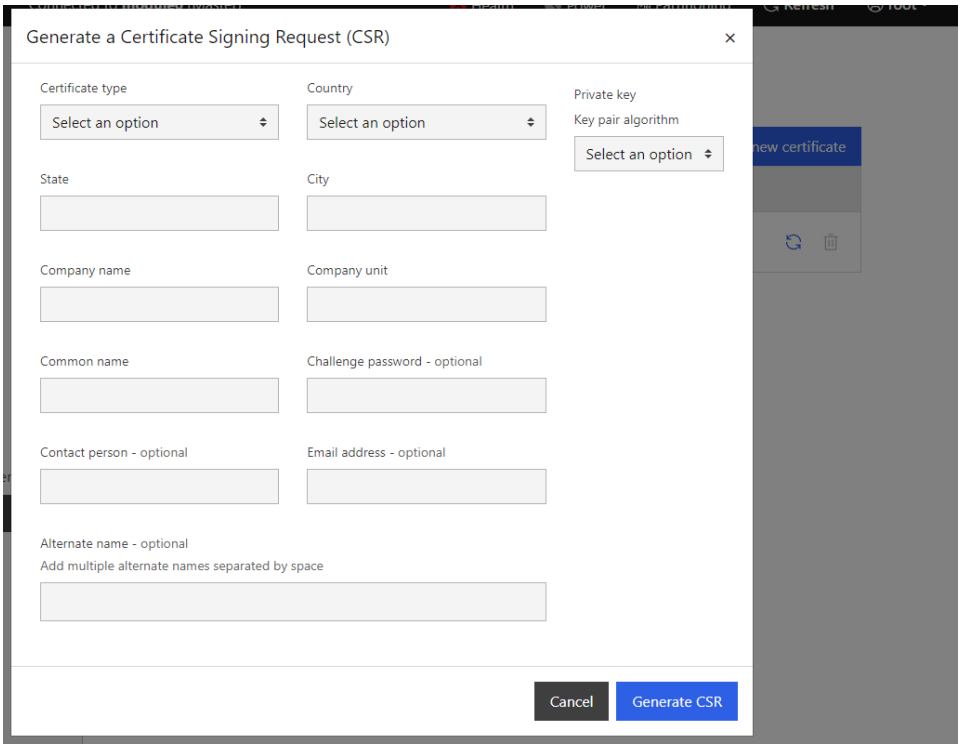
5. Click **Add**.

### 5.4.3. Generating a Certificate Signing Request (CSR)

**Important** **A valid SSL certificate is required to use the HTTPS protocol. By default, a temporary certificate is delivered. For optimum security, it is advised to generate and install a new certificate.**

1. From the **Access control** tab, click **SSL certificates**. The **SSL certificates** page opens.

2. Click the **Generate CSR** tab. The CSR generating page opens.




| Certificate Signing Request (CSR) | |
|---|---|
| Certificate type | Select an option:<br>■ HTTPS Certificate<br>■ LDAP Certificate |
| Country | Select a country |
| Private key - Key pair algorithm | Select:<br>■ EC<br>■ RSA |
| State | Name of the state |
| City | Name of the city |
| Company name | Name of the company |
| Company unit | Generally the name of the department |

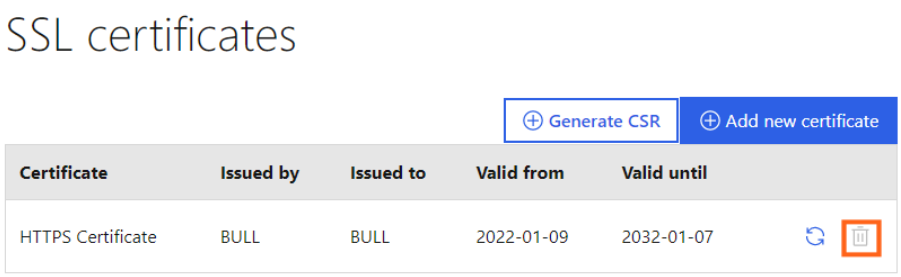
| Certificate Signing Request (CSR) | |
|---|---|
| Common name | "Fully Qualified Domain Name" (FQDN) example: hostName.DomainName.Top-LevelDomain.<br>If the Common Name differs from the network name, a security warning will pop up when the system is accessed using HTTPS |
| Challenge password - optional | Depending on the certification authority, it may be necessary to define a challenge password to authorize later changes to the certificate (example: revocation of the certificate). The minimum length of this password is four characters |
| Contact person - optional | Generally the administrator's name |
| Email address -optional | Generally the administrator's email address |
| Alternate name - optional | Multiple alternate names separated by space |

3. Complete the fields. Define the key pair algorithm for the private key:
   - For RSA key pair algorithm, select the key bit length
   - For EC key pair algorithm, select the key curve ID
4. Click **Generate CSR** to generate the CSR.
5. Click **Download** to save the CSR to the computer or Copy to save its content into the clipboard and send it to the Certification Authority, who will check the information, and then generate and return a signed certificate.
6. When the signed certificate is received, use the **Add new certificate** tab to install the certificate.

### 5.4.4. Deleting a certificate

1. From the **Access control** tab, click **SSL certificates**. The **SSL certificates** page opens.

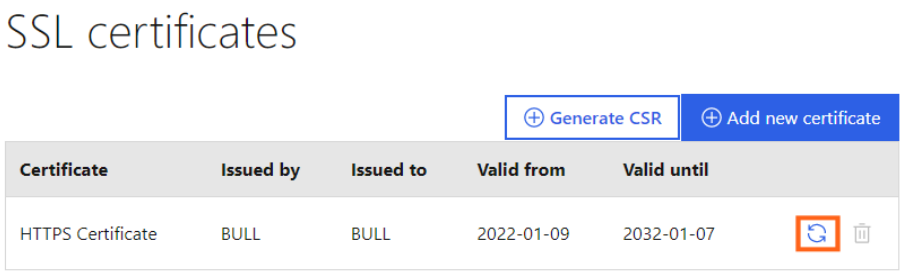
2. Click the remove button for the required certificate.




3. Click **Remove** in the confirmation dialog box to remove the certificate.

### 5.4.5. Updating a certificate automatically

1. From the **Access control** tab, click **SSL certificates**. The **SSL certificates** page opens.
2. Click the refresh button for the required certificate.




3. The certificate will be updated if a newer version is available.