

ExtremeCloud IQ Site Engine Security Integration Guide:

Best Practices for Configuration, Authentication, and Device Management

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Abstract

This security integration guide for ExtremeCloud[™] IQ Site Engine outlines technical recommendations to harden the platform against potential vulnerabilities. The guide provides best practices in detailed procedures for securing installation, user authentication, SNMP configurations, SQL access, and HTTPS communications. Key practices include disabling root SSH access, enforcing external authentication, using SNMPv3 with SHA/AES, replacing default credentials, and securing REST API and SMTP connections. The guide emphasizes using SCP over TFTP, HTTPS over HTTP, and SSH over Telnet for device management. The guide also covers auditing configurations, log export to SIEM systems, and restricting access to scripts, workflows, and APIs. Specific sections address security configurations for integrated components such as ExtremeControl and ExtremeAnalytics, including credential management, auditing, and secure communication protocols. This document is intended for IT administrators and security professionals with intermediate to advanced technical expertise.

Overview

The purpose of this document is to provide guidance for the best security practices that should be followed for ExtremeCloud IQ Site Engine. Failure to follow these practices could leave your system vulnerable to security breaches.

Best Practices

Installation Wizard

User Running the Application

When the installation wizard prompts you to run as root, select **No** and run the application as a non-root user.



SNMP profile

By default, the wizard configures the embedded SNMP. Use the most secure options, SHA and AES, instead of the default values. You should also use unique passwords.

SNMP Configuration	
These are the current SNMP V3 set SNMP configuration, enter 0 or an If you need to make a change, ent run the /usr/postinstall/snmpconf	ttings. To accept them and complete ny key other than the selection choices. ter the appropriate number now or `ig script at a later time.
0. Accept the current settings 1. SNMP User: 2. SNMP Authentication Protocol: 3. SNMP Authentication: 4. SNMP Privacy Protocol: 5. SNMP Privacy: 6. Modify all settings	5nmpUs3r SHA 5nmp4uthCr3d AES 5nmpPr1vCr3d
Enter selection [0]:	

Figure 2: SNMP configuration

Use the same values in the SNMP profile.

Edit SNMP Creder	itial: default_snmp_v3		×
Credential Name:	default_snmp_v3		
SNMP Version:			~
User Name:	5nmpUs3r		
Authentication Type:	SHA		•
Authentication Password:	5nmp4uthCr3d		۲
Privacy Type:	AES		•
Privacy Password:	5nmpPr1vCr3d		۲
		Save	Cancel

Figure 3: Site Engine SNMP configuration

Authentication to the application

Use an external authentication source for users logging into the application. See Authentication Method for additional information.

Deny SSH access to Site Engine

Deny remote root access to the operating system (OS).

Option 1: If the application is running as root, navigate to Administration > Users > SSH Configuration and select Manage SSH Configuration and Disable Remote Root Access.

See Network Settings for additional information.

Option 2: Modify the /etc/ssh/sshd_config file and change the value for PermitRootLogin directive from **yes** to **no**.

External access to SQL

If external access to the internal SQL database is not needed, drop the incoming packets using embedded iptables. Execute the following commands in the operating system:

iptables -A INPUT ! -i lo -p tcp --dport 4589 -j DROP

To make the change permanent use:

echo "iptables -A INPUT ! -i lo -p tcp --dport 4589 -j DROP" >> /etc/iptables.rules

Site Engine - Change password to SQL database

Admin access to the SQL database is not permitted from external sources by default. Change the default password to the SQL database especially if external access to SQL is needed.

- 1. Select Administration > Backup/Restore > Advanced
- 2. Change the password and click Save
- 3. Confirm the change

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4. Wait until the server restarts



Note

SQL credentials are stored in the backup of the product. Restoring the backup will restore credentials also. To restore the backup in a fresh new system requires this procedure to be executed before the restoration. Restoring the initial database will not overwrite those credentials.

Auditing in Site Engine

The audit feature should be used. See Enable CLI Auditing for additional information.

Web Terminal Logging

Additional security can be added by auditing the actions made by users in the web terminal. To set up the audit function:

- 1. Select Administration > Diagnostics
- 2. Under Level, select Advanced
- 3. Select System > Web Terminal
- 4. Select Eable Logging

See Terminal for additional information.

Use trusted HTTPs Server Certificate

Use trusted CA generated HTTPS certificates. To replace the certificate:

- 1. Select Administration > Certificates
- 2. Select Update under Server Configuration Information
- 3. Replace the default certificate with the certificate trusted by CA.

See Certificates for additional information.

Review Ciphers used by HTTPS

Some security tools recommend reducing the Ciphers allowed for communication with the application. Review Ciphers allowed by the webserver.



Note

Changes will affect the ability of devices to ZTP+ and communication between Engines and Site Engine.

See How to Change Default Ciphers used by Extreme Management Center Web GUI for additional information.

Disable Password Auto Complete for the Web Interface To disable Auto Complete:

- 1. Select Administration > Options > Web Server
- 2. Select Disable Password Auto Complete for Web Interfaces

See Password Auto Complete for additional information.

Managing devices

Use SSH instead of Telnet

Use the SSH protocol for scripting and CLI access to the managed devices. To configure SSH:

- 1. Select Administration > Profiles.
- 2. In the bottom half of the screen, select CLI Credentials.
- 3. Select a credential to activate Add or Edit.
- 4. In the pop-up window, select **SSH** for **Type** value.

See CLI Credentials Subtab for additional information.

Disable Device Terminal Automatic Login

To disable automatic login:

- 1. Select Administration > Options > Device Terminal
- 2. Clear Enable Auto Login.

See Device Terminal Options for additional information.

Use HTTPS instead of HTTP for REST calls to Managed Devices To configure your REST calls to use HTTPS:

- 1. Select Network > Devices.
- 2. Right-click on the device
- 3. Select Configure > Device.
- 4. Clear Use Default WebView URL
- 5. In WebView URL, replace the default http://%IP with https://%IP:443.

The modification can also be done through Vendor Profiles. See Device for additional information.

Use SNMPv3 instead of SNMPv1

SNMPv3 is the most secure method in the device access profile for write and maximum access. Modern devices usually have enough performance to handle the most secure methods for read access also. The best security practice is to use the **AuthPriv** security level with **SHA** and **AES** methods.

To configure the access profile:

- 1. Select Administration > Profiles.
- 2. Select the device to update, right-click, and select **Edit** or select **Edit** from the toolbar. You can also setup the access profile when you add the profile.
- 3. Select SNMPv3 for the SNMP Version

See Profiles Section for additional information.

Inventory

Use SCP instead of Trivial File Transfer Protocol (TFTP) for transferring files during backup, restore, firmware upgrade actions. To configure SCP:

- 1. Select **Network > Devices**.
- 2. Select the device and right-click
- 3. Select Archives > Inventory Settings

The default behavior for new devices can be changed through Vendor Profiles. See Inventory Settings for additional information.

Restrict Access to Scripts and Workflows

Only necessary personnel should have access to modify or create sripts and workflows. Users with access to sripts and workflows have access to the OS through Python. To restrict access:

- 1. Select Administration > Users.
- 2. In the **Authorization Groups** at the bottom of the window, select the group to modify.
- 3. Right-click and select **Edit** or select **Edit** from the **Authorization Groups** toolbar. You can also restrict access when you add a group.
- 4. In the Edit Authorization Group window, select Advanced in Category.
- 5. Expand XIQ-SE OneView.
- 6. Expand Workflows/Scripts.
- 7. Clear View and Edit Workflows, Scripts and Saved Tasks.
- 8. Select Save.
- The capability to Edit Workflows, Scripts, and Saved Tasks has id OV_WORKFLOW_WRITE. See Authorization Group Capabilities for additional information.

The best security practice is to define **Authorization Groups (Roles)** for each workflow and script. See <u>Menus</u> for additional information.

Restrict Access to API

Only necessary personnel should have access. To restrict API access:

- 1. Select Administration > Users
- 2. In Authorization Groups at the bottom of the window, select the group to modify.
- 3. Expand Northbound API.
- 4. Clear the choices that apply.
- 5. Select Save.

The best security practice is to use Client API access through tokens. See Authorization Group Capabilities for additional information.

Exporting logs to SIEM or Log Manager

The best security practice is to export logs to external applications performing long-term storage of logs and Log Management.

```
1. Create file /etc/rsyslog.d/10-remote.conf with the following content.
NOTE - Use a simple text editor to remove the extra line breaks from this sample content. Each line must
start with either 'input' or 'module' declarations (except for the last line).
Adjust the destination (target):
module(load="imfile" PollingInterval="1" mode="inotify") input(type="imfile"
file="/usr/local/Extreme Networks/NetSight/appdata/logs/admin.log" tag="admin"
severity="info" facility="local6" PersistStateInterval="10")
input(type="imfile"
file="/usr/local/Extreme Networks/NetSight/appdata/logs/appid.log" tag="appid"
severity="info" facility="local6" PersistStateInterval="10")
input(type="imfile"
file="/usr/local/Extreme Networks/NetSight/appdata/logs/console.log"
tag="console" severity="info" facility="local6" PersistStateInterval="10")
input(type="imfile"
file="/usr/local/Extreme Networks/NetSight/appdata/logs/fabricManager.log"
tag="fabricManager" severity="info" facility="local6"
PersistStateInterval="10")
input(type="imfile"
file="/usr/local/Extreme Networks/NetSight/appdata/logs/gov eng.log"
tag="Governance" severity="info"
facility="local6" PersistStateInterval="10")
input(type="imfile"
file="/usr/local/Extreme Networks/NetSight/appdata/logs/inventory.log"
tag="inventory" severity="info"
facility="local6" PersistStateInterval="10")
input(type="imfile"
file="/usr/local/Extreme Networks/NetSight/appdata/logs/nacApplianceEvent.log"
tag="nacApplianceEvent" severity="info" facility="local6"
PersistStateInterval="10")
input(type="imfile"
file="/usr/local/Extreme Networks/NetSight/appdata/logs/nsschedule.log"
tag="nsschedule" severity="info"
facility="local6" PersistStateInterval="10")
input(type="imfile"
file="/usr/local/Extreme Networks/NetSight/appdata/logs/Policy.log"
tag="Policy" severity="info" facility="local6" PersistStateInterval="10")
input(type="imfile"
file="/usr/local/Extreme Networks/NetSight/appdata/logs/tamAudit.log"
taq="tamAudit" severity="info" facility="local6" PersistStateInterval="10")
input(type="imfile"
file="/usr/local/Extreme Networks/NetSight/appdata/logs/tam.log"
```

```
tag="tam" severity="info" facility="local6" PersistStateInterval="10")
input(type="imfile"
file="/usr/local/Extreme_Networks/NetSight/appdata/logs/wireless.log"
tag="wireless" severity="info" facility="local6"
PersistStateInterval="10")
input(type="imfile"
file="/usr/local/Extreme_Networks/NetSight/appdata/logs/
wirelessAudit.log" tag="wirelessAudit" severity="info" facility="local6"
PersistStateInterval="10")
input(type="imfile"
file="/usr/local/Extreme_Networks/NetSight/appdata/logs/
wirelessEventle"
file="/usr/local/Extreme_Networks/NetSight/appdata/logs/
wirelessEvent.log" tag="wirelessEvent" severity="info" facility="local6"
PersistStateInterval="10")
```

```
local6.* action(type="omfwd"
target="<ExternalSyslogServer>" port="514" protocol="UDP") & stop
```

2. Restart the rsyslog service systemctl restart rsyslog

Securing SMTP connection

Use TLS or SSL on SMTP communication. See How to Configure Extreme Management Center SMTP for Gmail, Microsoft SMTP, Exchange, Office 365, and Other Services for additional information.

ExtremeControl

Default credentials

Admin Web Page Credentials

To change the Access Control Engine default credentials for WebView:

- Select Control > Access Control > Configuration > Global & Engine Settings > Default > Credentials > Admin Web Page Credentials
- 2. Enter a new username and password
- 3. Select Save

See Admin Web Page Credentials for additional information.

Assessment Adapter

To change the Assessment Adapter default credentials even if Assessment Adapter is not being used:

- Select Administration > Options > Access Control > Assessment Server > Assessment Agent Adapter Credentials
- 2. Enter a new username and password
- 3. Select Save

See Assessment Server for additional information.

Shared Secret

Change the Shared Secret default radius:

- 1. Select Control > Access Control > Configuration > Global & Engine Settings > Engine Settings > Default > Credentials
- 2. Under Switch Configuration, enter a new Shared Secret
- 3. Select Save

See Switch Configuration for additional information.

Secure Communication

Secure communication should be configured between Access Control Engine and ExtremeCloud IQ – Site Engine. See ExtremeCloud IQ - Site Engine and ExtremeControl Secure Communication for additional information.

Auditing

Enable the auditing feature:

- 1. Select Control > Access Control > Configuration > Global & Engine Settings > Engine Settings > Default > Auditing > Enable Auditing
- 2. Select Enable Auditing
- 3. Enter the auditing rules
- 4. Select Save

See Auditing for additional information.

SSH access to the Operating System

Deny remote root access to the OS:

- Select Control > Access Control > Configuration > Global & Engine Settings > Engine Settings > Default > Network Settings
- 2. Select Manage SSH Configuration and Disable Remote Root Access
- 3. Click Save

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Note Firmware upgrade of AccessControl Engine requires root privileges.

See Manage SSH Configuration for additional information.

ExtremeAnalytics

Default credentials to WebView

Change the Analytics Engine default credentials for WebView.

- 1. Select Analytics > Configuration > Engines
- 2. Select one engine > Configuration > Web Credentials

- 3. Enter a new username and password
- 4. Select Save

See Web Credentials for additional information.

Auditing

Enable the auditing feature.

- 1. Select Analytics > Configuration > Engines
- 2. Select one engine > Configuration > Auditing
- 3. Select Enable Auditing
- 5. Enter the auditing rules
- 6. Select Save

See Auditing for additional information.

SSH access to the Operating System

Deny remote root access to the OS:

- 1. Select Analytics > Configuration > Engines
- 2. Select one engine > Configuration > Network Settings
- 3. Select Manage SSH Configuration and Disable Remote Root Access
- 4. Select Save



Note

Firmware upgrade of ApplicationAnalytics Engine requires root privileges.

See **SSH** for additional information.