OnGuard®

Elements Connector Administration Guide

LenelS2 OnGuard® Elements Connector Administration Guide
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CHAPTER 1

Overview

This chapter provides an overview of the Elements Connector.

Intended Usage

The Elements Connector is intended to connect remote and branch offices using the Elements system to an OnGuard system.

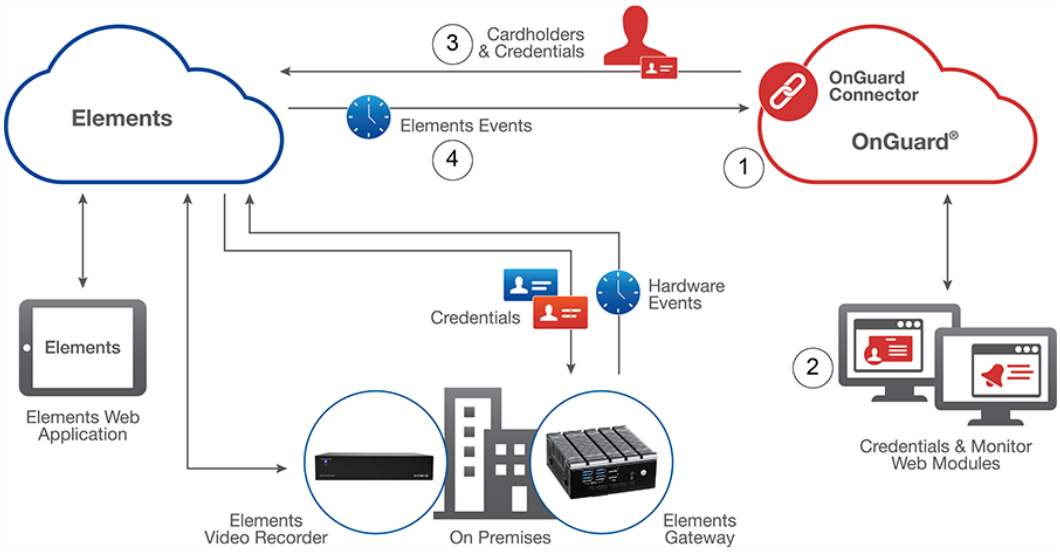
For small-to-medium sized businesses, Elements offers a full-featured, standalone and cloud-based access control solution. For enterprise systems, the Elements Connector enables OnGuard to seamlessly communicate with the Elements system. The Elements Connector provides enterprise systems with the flexibility to run on-premise OnGuard at its headquarters while satellite offices or branches are secured by Elements.

Enterprise customers running OnGuard who want to deploy security at remote sites may choose to connect Elements:

- If there is no established network between corporate and remote sites, but an internet connection is available.
- For when a quick and easy deployment option with reduced overhead, costs and system complexity is desired.
- To provide a level of autonomy to the remote sites with managing daily activities through a streamlined, easy-to-use interface while pushing pre-existing cardholders to Elements and then having Elements events flow back to OnGuard.

How It Works

The following diagram details how the Elements Connector connects an OnGuard Enterprise system to Elements.



Callout	Description
1	The Elements Connector runs in the OnGuard environment. Internet access is required to allow OnGuard to communicate with the OpenAccess server and Elements.
2	Using a supported web browser, manage the Elements Connector from the LenelS2 Console.
3	Cardholders and credentials are pushed from OnGuard to Elements on a default or user-defined schedule. As scheduled, the Elements Connector ensures that remotely managed cardholders and credentials in Elements match per the rules defined in the Elements Connector. If a cardholder or credential should be available in Elements and it is not, then the Elements Connector adds it. If a cardholder or credential should not be available in Elements and it is, then the Elements Connector removes it.
4	Events are pulled from Elements into OnGuard. All events are pulled in and sent into OnGuard via the OpenAccess API. The event type and event ID originating in Elements are sent to OnGuard via the OpenAccess API, mapped to existing OnGuard events where appropriate. Elements events without a corresponding OnGuard event are sent as a generic event.

CHAPTER 2

Installing Elements Connector

This chapter provides the prerequisites and instructions to install Elements Connector.

Prerequisites

Elements Connector is built on the OpenAccess platform. Before using Elements Connector, make sure the following services are installed and running on the OnGuard server:

- LS Message Broker
- LS OpenAccess

For more information about applications built on the OpenAccess platform, refer to “Expectations and Behaviors of OpenAccess” in the OpenAccess User Guide (DOC-1057-EN-US).

For an up-to-date list of prerequisites and requirements, refer to the compatibility charts on the LenelS2 web site: https://partner.lenel.com/downloads/onguard/software. Once there, select **Compatibility Charts** from the **Choose type of download** menu.

Install Elements Connector

Notes: By default, Elements Connector installs on a Microsoft SQL database. However, it can also be installed on an Oracle R2 12c database. For more information, refer to Install Elements Connector on an Oracle Database on page 10.

When an OnGuard browser-based application is installed or updated, the LS Web Service is restarted so that configuration changes can be applied to the system. As a result, a temporary disruption in service of approximately 30 to 60 seconds will occur. During this time, any web application that uses OpenAccess will be unavailable to users. Once the LS Web Service has restarted, the web application will be available for use.

1. Go to https://connector.elementssecure.com/ElementsConnector_Latest.zip.
2. Download the installation package for Elements Connector to the platform server.
3. Unzip the installation package.

Notes: To avoid errors related to limitations in Windows with file path lengths, extract the installation file to a folder with the shortest possible name, such as **C:\Temp** or **C:**.

If errors occur during the extraction of the compressed installation package, do not continue with the installation as key files may not be installed.

4. Run **Setup.exe** with administrator privileges.

   The InstallShield Wizard Welcome window opens.
5. Follow all prompts to install Elements Connector.

Install Elements Connector on an Oracle Database

1. Download and install Microsoft Visual C++ Redistributable for Visual Studio 2015, 2017 and 2019.
2. Go to https://www.oracle.com/database/technologies/instant-client/winx64-64-downloads.html and download the 64-bit Oracle Instant Client Basic package.
3. Unzip Oracle Instant Client into a single directory such as ***C:\oracle\instantclient_19_3***.
4. Add this directory to the System PATH environment variable.

   The PATH variable can be configured for the current user as well as system-wide. Because Elements Connector runs as a Windows service, make sure to configure the PATH variable system-wide.
5. Restart the workstation that the OnGuard server is installed on.
6. Install Elements Connector.

CHAPTER 3

Using Elements Connector

This chapter provides instructions on starting Elements Connector and an overview of the user interface.

Starting Elements Connector

1. Launch the LenelS2 Console.
2. On the login screen, select a directory.
3. Enter a valid directory account username and password that is linked to an OnGuard user.
4. Click **LOG IN**.
5. In LenelS2 Console, click the **Elements Connector** card.

Using Elements Connector

Elements Connector consists of the following pages:

- **Sites:** Use this page to get a quick overview on the status of connected cloud sites, view details about a specific site, add a new site, disconnect, reconnect, or delete an existing site.
- **Devices:** This page displays a list of devices from the selected Elements site, the corresponding logical devices in OnGuard, and the date and time of the last reported event.
- **Cardholders:** Use this page to push (copy) cardholders and credentials from the OnGuard system to a selected cloud site.

For more information about Elements Connector, refer to the online help.

CHAPTER 4

Advanced Topics

This chapter contains information on configuring Elements Connector as well as troubleshooting information.

User Permissions for Elements Connector

Note: All OnGuard user permissions are enforced for all OnGuard data types displayed within Elements Connector.

In order for a user to access Elements Connector, grant the following permission in OnGuard:

System Permission Groups	Permission Level
Software options / System configuration	View/Edit

To allow the Elements Connector to synchronize data with a cloud site, create an Elements Connector service account with the following permissions:

System Permission Groups	Permission Level
Access control / Segments	View
Access control / Monitor zones	View/Edit
Additional data sources / Logical sources	View/Edit
Cardholder Permission Groups	**Permission Level**
Cardholders/Search for Cardholders	View
Cardholder / Segments	View
Badges	View

Monitor Permission Groups	Permission Level
None	None
Report Permission Groups	**Permission Level**
None	None
Field/Page Permission Groups	**Permission Level**
Cardholder	View
User-defined cardholders	View
Badges	View
Badge status	View
Badge type	View
Multimedia objects / Photo field	View

Note: Changing permissions requires a restart of OpenAccess.

Segmentation Support

In a segmented environment, the site is assigned to a single segment, the “site segment.” The “site segment” is a segment of the logical source used to inject events from the cloud to OnGuard. If cardholder segmentation is enabled in OnGuard, the “site segment” filters cardholders synchronized with a cloud system only to those with the site segment (either directly or through a segment group). Additional segments that cardholders may be assigned to are not included during cardholder synchronization.

Elements Connector Log Files

Log files for Elements Connector are located at ***C:\ProgramData\Lnl\logs\LSElementsConnector.log***.

Configure Internet Connection for Elements Connector

In order to work, Elements Connector requires a connection to the Internet. In an Enterprise environment, this usually means configuring an HTTP proxy. There are two options for configuring an HTTP proxy for Elements Connector:

- Set up a system-wide HTTPS_PROXY environment variable. Configure this variable so that the service user running the Elements Connector Windows service can see it. After setting up the variable, restart the computer.
- Configure Elements Connector with a command run from the following directory: ***C:\Program Files (x86)\OnGuard\ElementsConnector: LSElementsConnector.exe configure --https-proxy="<HTTPS Proxy Address>"***. After running this command, restart the LS Elements Connector service.

Change OpenAccess Connection Parameters

To change OpenAccess connection parameters, run the following command line from ***C:\Program Files (x86)\OnGuard\ElementsConnector*** with administrator privileges:

```
LSElementsConnector.exe configure --oa-url="<Open Access URL>" --oa-username="<Open Access User Name>" --oa-password="<Open Access Password>"
```

For example:

```
LSElementsConnector.exe configure --oa-url="https://localhost:8080" --oa-username="elements-connector" --oa-password="Passw0rd"
```

Restart the LS Elements Connector service after running this command.

To test OnGuard connection parameters, run the following command:

```
LSElementsConnector.exe test-oa --oa-url="<Open Access URL>" --oa-username="<Open Access User Name>" --oa-password="<Open Access Password>
```

Change Database Connection Parameters

Note: The database user must have permission to create tables in the database.

To change the database connection parameters, run the following command line from ***C:\Program Files (x86)\OnGuard\ElementsConnector*** with administrator privileges:

```
LSElementsConnector.exe configure --db-type="mssql or oracle" --db-host="<DB Host Name>" --db-port="<DB Port>" --db-username="<DB User Name>" --db-password="<DB Password>" --db-database-name="<DB Database Name>"
```

For example:

```
LSElementsConnector.exe configure --db-type="mssql" --db-host="localhost" --db-port="1433" --db-username="sa" --db-password="Passw0rd" --db-database-name="AccessControl"
```

Restart the LS Elements Connector service after running this command.

To test the database connection parameters, run the following command:

```
LSElementsConnector.exe test-db --db-type="mssql or oracle" --db-host="<DB Host Name>" --db-port="<DB Port>" --db-username="<DB User Name>" --db-password="<DB Password>" --db-database-name="<DB Database Name>"
```

Enable Database Connection via TCP/IP Protocol

Elements Connector connects to the SQL Server database via TCP/IP protocol. As a result, this protocol must be enabled on the database. To do so, use the following steps.

1. Open SQL Server Configuration Manager.
2. Expand **SQL Server Network Configuration** and click **Protocols for MSSQLSERVER**.
3. Right-click **TCP/IP** and select **Enable**.
4. A warning dialog appears informing you to restart the service. Click **OK**.
5. Click **SQL Server Services**.
6. Right-click **SQL Server (MSSQLSERVER)** and select **Restart**.

   You should now be able to connect to the SQL Server database using FQDN or a properly configured SQL alias.
7. The server running the Elements Connector service must be able to communicate outbound to:
   - remotemanagementservice.elementssecure.com:443
   - lenelpilot.b2clogin.com:443
   - portal.elementssecure.com:443

Troubleshooting

General

If problems are encountered while installing or accessing Elements Connector, refer to the LenelS2 Knowledge Base at kb.lenel.com.

OpenAccess

To verify that OpenAccess and its dependent services are configured correctly, refer to the "Expectations and Behaviors of OpenAccess" section in the OpenAccess User Guide (DOC-1057-EN-US).

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