

# Edgenuity SSL Protocols



Edgenuity requires and supports Secure Sockets Layer (SSL) and Hyper Transfer Protocol Secure (HTTPS) security protocols when using a media appliance. By using SSL and HTTPS protocols, Edgenuity can provide a level of security and confidence within the information being exchanged with our users.

Additional configuration will be required for customers using an Edgenuity Media Appliance. Instructions for deploying SSL within an Edgenuity Media Appliance will complete the installation of an appliance locally.

## What is SSL?

SSL encrypts information to create secure transactions online. X.509 certificates and asymmetric cryptography are used to verify the counterparty with whom they are communicating with, and to exchange a symmetric key. The session key is then used to encrypt data being exchanged between the Edgenuity website and the student session. This allows for data / message confidentiality, and message authentication codes for message integrity, establishing message authentication as a by-product.

The following updates are required to establish SSL on a media appliance:

- Open port 443 onto the media appliance within your network.
- Apply the Edgenuity White List for port 443.
- Contact an Edgenuity Field Engineer to apply a SSL certificate onto the media appliance within your network.
- Establish a FQDN for your media appliance within your network.
- Two line-edits to the SSL configuration file.
- A DNS entry onto the media appliance within your network.

## What are HTTPS URLs?

HTTPS is a communication protocol for secure communication over a computer network. HTTPS is designed to withstand and help prevent insecurity and weaknesses within a network. Standard HTTP URLs are insecure. This insecurity could result in weakness within a network, allowing others to gain access to website accounts and sensitive information without permission.

## FQDN and Changes to DNS

A fully qualified domain name (FQDN), also referred to as an absolute domain name, is a domain name that specifies its exact location in the tree hierarchy of the Domain Name System (DNS). It specifies all domain levels, including the top-level domain and the root zone. A fully qualified domain name is distinguished by its lack of ambiguity: it can only be interpreted one way. A FQDN will need to be established for your school's DNS records.

After the certificate has been applied to your media appliance you will need to contact the IT of the site and make sure the FQDN has been set up in the school's DNS records to point to the media appliances IP address. Only then will the students be able to access media from the appliance without receiving a warn-level error from their browser.

Please contact an Edgenuity Field Engineer, [fieldengineers@edgenuity.com](mailto:fieldengineers@edgenuity.com), to perform these required updates.

Frequently Asked Questions	
<b>Q:</b> Is SSL required or optional when using Edgenuity?	<b>A:</b> SSL is required by all Edgenuity users. Additional configuration will be required for customers using an Edgenuity Media Appliance.
<b>Q:</b> What are the benefits of moving to SSL?	<b>A:</b> SSL encrypts the information to make the transactions more secure for users.
<b>Q:</b> What port does SSL use?	<b>A:</b> SSL uses port 443.
<b>Q:</b> If a school is using SSL to access Edgenuity but their appliance does not have a SSL certificate, what happens when they load a video?	<b>A:</b> Videos will not load if a school is using mixed content. If they are not using mixed content the web browser provides a warn-level error.
<b>Q:</b> Will standard HTTP requests still work after an appliance is set up and has a SSL certificate?	<b>A:</b> Yes; ports 80 and 443 are always on.