SMW Journal 2 Week 15

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Class: DISM/FT/2A/04 | Date: 27th July 2020

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# Topics Covered

* Digital Certificates
* How to implement Certificates
* Secured Web Access

# Secured Web Access

During this week’s lecture I have learnt the importance of securing web servers hosted on Windows Server, namely using IIS (Internet Information Services). It is crucial to secure your web access due to many reasons. First being the need to authenticate identities of remote Servers and Clients communicating with each other, as well as making sure that information being transported is not intercepted and read by unauthorized parties.

The main solution for that is to use SSL (Secure Sockets Layer) Certificates to authenticate and encrypt messages sent over the HTTP protocol. The combined use of these result in HTTPS, a secured form of HTTP where data being communicated is encrypted and authenticated.

These SSL Certificates can be obtained either through Certificate Services by self-signing, or more commonly, through a trusted third-party certificate authority.

HTTPS is widely used today, in most of the major websites like Youtube or Amazon. This can be shown from the padlock icon beside the website URL in the browser as seen below. This image was taken from Google Chrome. It may be a bit different in other browsers like Opera or Firefox, but the point is the same.



Publicly Issued certificates are the most common form of certification today for web services. They can be obtained through third-party certificate authorities like VeriSign, GlobalSign, Thawte, Comodo, Let’s Encrypt and many more. These certificates need to be renewed on a regular basis to maintain its validity. These certificates can be assigned to multiple websites.

Most certificates can be used from 1year to 5years, depending on their use case. It is crucial to ensure that the certificate is renewed regularly and promptly to prevent any scenario where the website uses an invalid certificate, which would cause the website to lose the trust of its customers.