## Alberta Education

# Client Certificate Installation Guide

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## 1. TABLE OF CONTENTS

## 2.  INTRODUCTION

This document provides information on how to install an issued/approved certificate from Alberta Education.

## 3.  INSTALLING AN ISSUED CERTIFICATE

**Note:** *This process is only applicable for certificates which have been issued/approved by Alberta Education.*

Once the certificate request is approved it will be sent via email to the account provided during the request.  The following steps can be used in order to complete the process. The first step is to install the Certificate Authority Certificates and then complete the installation of the certificate sent to you.

**Note: Windows Server 2016** – If you are installing certificates on Windows Server 2016 or higher you may need to install the Alberta Education root and Issuing authority certificates in the Machine certificate store instead of the current user's store (which is default when doubling clicking a certificate to install). To access the machine certificate store use MMC.exe and add the "Computer Accounts" certificate snap-in..

After downloading the certificates from the web site highlighted in step 1 below you may right click the "Trusted Root Certificate Authorities" and select "All Tasks | Import" to import the root authority certificate. Then perform the same actions but on the "Intermediate Certificate Authorities" folder importing the Alberta Education Issuing Authority Certificate. Once this is complete you may skip to the section to import the certificate you received via email.
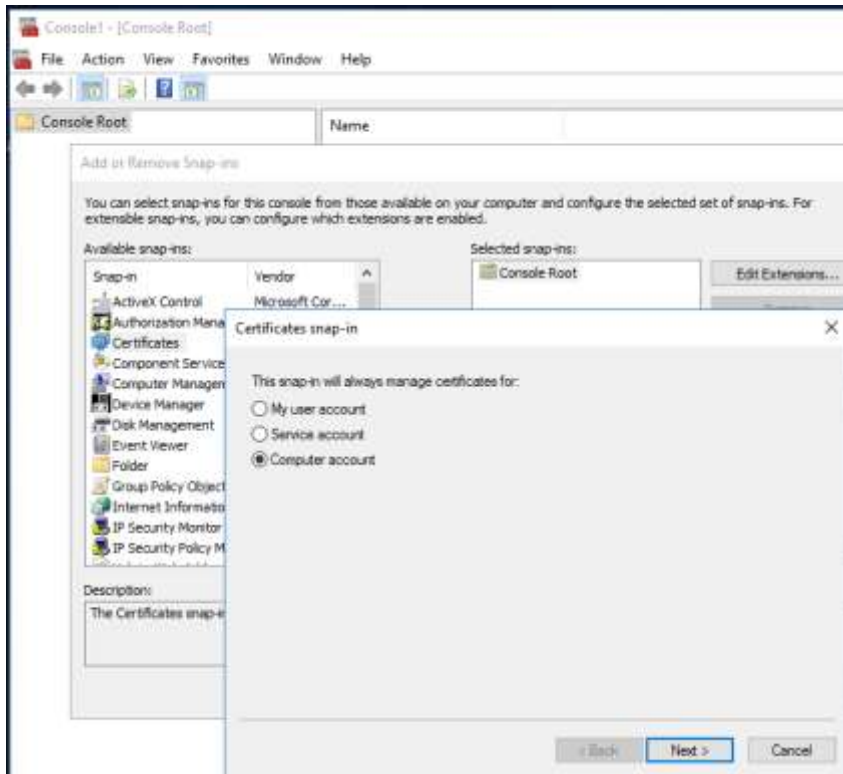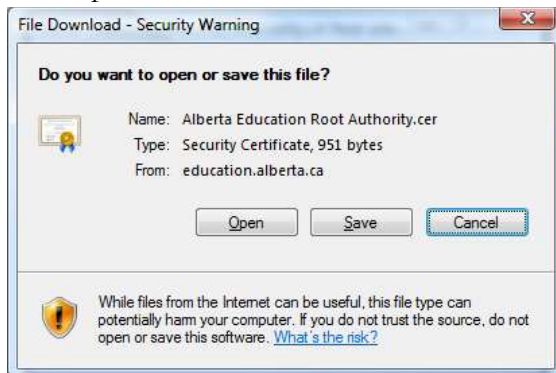
**Note:** *The screen shots shown below are taken from Windows Server 2008 using a different version of Windows may have different screens.*
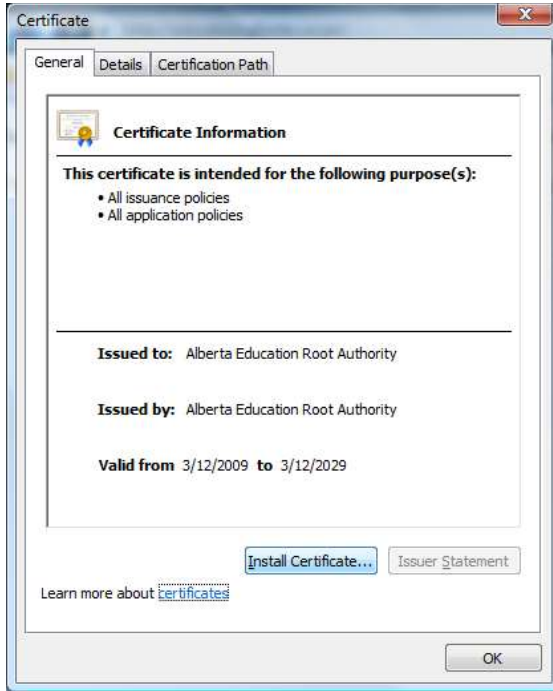
1) Using a web browser go to:
   https://extranet.education.alberta.ca/Ae.CertificateRequest/Home/DownloadAuthorityCerts/.



2) Click on the link "Alberta Education Root Authority Certificate"
3) Click open

4) Click Install Certificate



5) Click Next

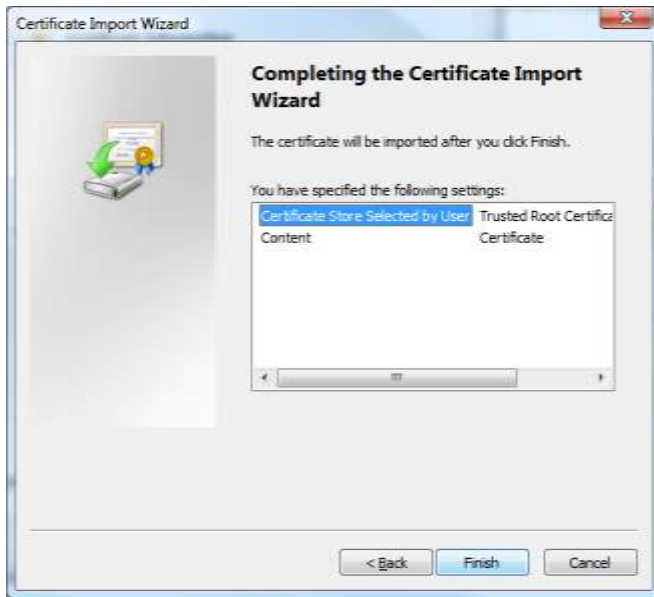6) Click "Place all certificates in the following store" and Browse



7) Click "Trusted Root Certification Authorities" and Click Ok



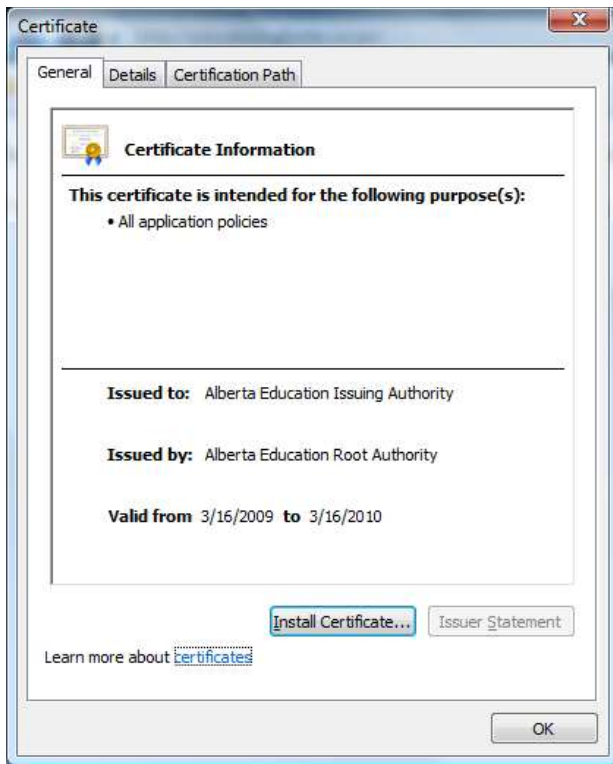9) Click Next

10) Click Finish

11) Back on the web page Click on the link "Alberta Education Issuing Authority Certificate"
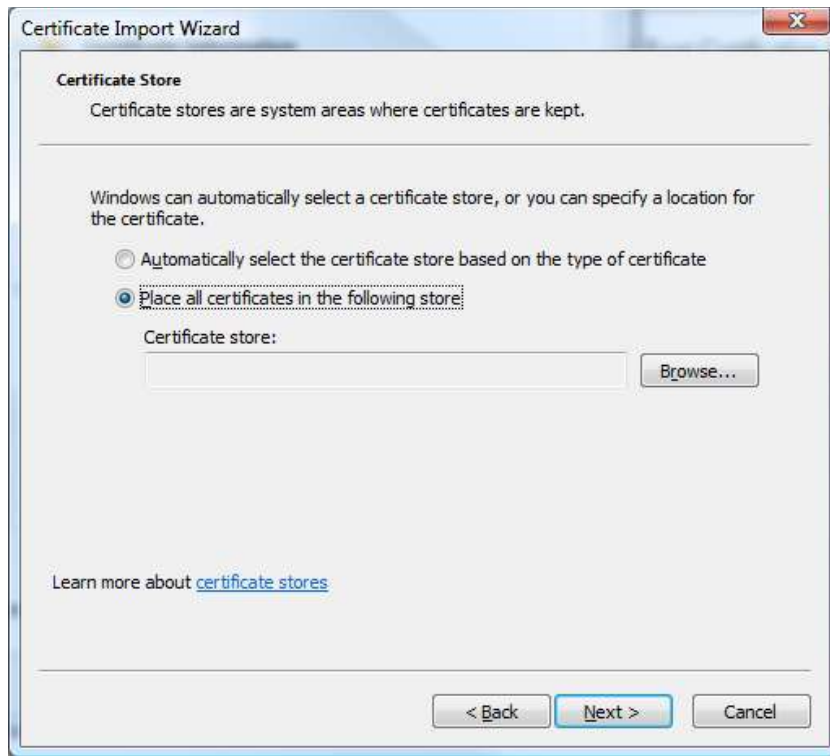
12) Click open

13) Click Install Certificate



14) Click Next

15) Click "Place all certificates in the following store" and Click Browse...



17) Click "Intermediate Certification Authorities" and Click Ok



18) Click Next

19) Click Finish

The next step is to install the certificate received via email.

## Certreq.exe Installation Steps

If you used the Certreq.exe application to generate your request you will use Certreq.exe to complete the process with the following steps:

1. Using the computer you requested the certificate from save the attachment to **C:\Certificate.txt**

2. Click Start | Run

3. Type **cmd** <Enter>

4. At the command line window Type **CD \** <Enter>

5. Type **Certreq -Accept Certificate.txt** <Enter>

**Note:** This step must be done on the same computer and user account that created the certificate request. Using another computer or user account will result in an error. Trying to perform these steps more than once will also produce an error.

## OpenSSL Installation Steps

If you used the OpenSSL application to generate your request you will use openssl.exe to complete the process with the following steps (these steps assume that openssl is set up on your system path):

1. Using the computer you requested the certificate from save the attachment to **C:\Certificate.txt**

2. Click Start | Run

3. Type **cmd** <Enter>

4. At the command line window Type **CD \** <Enter>

5. Type the following (once prompted set a password for the certificate file):

   openssl pkcs12 -export -out certificate.pfx -inkey server2048.key -in Certificate.txt

The above statement will create a pfx file called "certificate.pfx" for the certificate

The parameter –inkey should be set to the full path where you saved the file server2048.key when creating the request.

Certificate.txt is the file sent from Alberta Education in the email.

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6.  Once you have the pfx file you may double click this file and import into the Windows Certificate store if that is the final destination for the certificate (the reference clients provided by PASI assume the certificate has been loaded into the Windows certificate store).

**Certificate.txt –** The certificate returned in the Certificate.txt file is a Base64 Encoded X.509 Certificate. This is described on the Microsoft website as follows.

### Base64 Encoded X.509 [1]

*This is an encoding method developed for use with Secure/Multipurpose Internet Mail Extensions (S/MIME) which is a popular, standard method for transferring binary attachments over the Internet. Base64 encodes files into ASCII text format, making corruption less likely as the files are sent through Internet gateways, while S/MIME provides some cryptographic security services for electronic messaging applications, including non-repudiation of origin using digital signatures, privacy and data security using encryption, authentication, and message integrity.*

*The MIME (Multipurpose Internet Mail Extensions) specification (RFC 1341 and successors) defines a mechanism for encoding arbitrary binary information for transmission by electronic mail.*

*Because all MIME-compliant clients can decode Base64 files, this format might be used by certification authorities that are not on Windows 2000 servers, so it is supported for interoperability. Base64 certificate files use the .cer extension.*

*For more information, see "RFC 2633 S/MIME Version 3 Message Specification, 1999," at the Internet Engineering Task Force (IETF) Web site and "A Layman's Guide to a Subset of ASN.1, BER and DER," an RSA Laboratories technical note.*

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### 4.  CONTACT INFORMATION

If you have any problems installing the certificate please email srbusinesssupport@gov.ab.ca

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[1] http://www.microsoft.com/resources/documentation/windows/xp/all/proddocs/en-us/sag_cmimportexport.mspx?mfr=true