CHAPTER 1
Getting Started

1.1 Overview

The purpose of this document is provide end-users with instructions for how to enable the use of a Department of Defense (DoD) Common Access Card (CAC) on a personal computer operating on Windows 7 or later.

1.2 Getting Started

To get started, you will need:

a. Windows 7 or later installed on the computer

b. Windows-compatible smart card reader

c. DoD CAC

d. Administrative Privileges on Windows

1.3 Operating Systems

The instructions in this document are intended for *supported* Windows desktop operating systems, including Windows 7, 8, 8.1, and 10. Each edition of Windows comes in one of two "bit versions" (32-bit or 64-bit). To smart card-enable your computer, you will need know your Windows edition and bit version.

What is my Operating System (OS)?

If you do not know the answer to this question, you can navigate to where Windows presents the information.

The procedures may vary when navigating the Control Panel to locate the operating system information. Microsoft provides specific instructions for each edition of Windows in the following article: [Which Windows operating system am I running?](#)

Earlier Windows operating systems, such as Windows XP and Vista, are no longer supported by Microsoft. Users are encouraged to upgrade to a supported operating system edition, e.g. Windows 7 or later (preferably Windows 10). The table below highlights currently supported versions of Microsoft Windows.

Table 1-1: Supported Operating systems

OS Edition	Supported?	
	32-bit	**64-bit**
Window XP	No **x**	No **x**
Windows Vista	No **x**	No **x**
Windows 7	Yes ✓	Yes ✓
Windows 8	Yes ✓	Yes ✓
Windows 8.1	Yes ✓	Yes ✓
Windows 10	Yes ✓	Yes ✓

1.3 Smart Card Readers

It is important to determine whether or not a smart card reader is compatible with a computer's operating system. Some manufacturers will claim that their product(s) is/are compatible with the latest version(s) of Windows, but then do **not** provide the necessary hardware drivers for Windows to recognize the device. Please take some time to research products and manufacturers before purchasing.

1.3.1 Install the Smart Card Reader Driver

If you have a smart card reader, plug your reader into an available USB port. If the drivers installed automatically, skip to *CHAPTER 2: Installing DoD Root Certificates*.

If you do not have a smart card reader, **Table 1-2** provides a list of *some* supported smart card readers.

Table 1-2: USB Smart Card Readers

Reader Model	Manufacturer	Windows Compatibility		
		7	8(.1)	10
Gemplus GemPC 41N3040	Lenovo	Yes ✓	Yes ✓	Yes ✓
GSR202	IOGEAR	Yes ✓	Yes ✓	Yes ✓
IDBridge CT30	Gemalto	Yes ✓	Yes ✓	Yes ✓
IDBridge CT40	Gemalto	Yes ✓	Yes ✓	Yes ✓
Omnikey 3121/5321(v2)	HID Global	Yes ✓	Yes ✓	Yes ✓
SCR331	Indentive-Infrastructure	Yes ✓	Yes ✓	Yes ✓
SCR3310/v2	Indentive-Infrastructure	Yes ✓	Yes ✓	Yes ✓
SGT111/114/116/117/ 118/119/121/122	Stanley Global	Yes ✓	Yes ✓	Yes ✓
ST-1044U	Cherry	Yes ✓	Yes ✓	Yes ✓

**Disclaimer:** Table 1-2 is not an all-inclusive list. NDU does not endorse any commercial manufacturer or product for home use.

NOTE: If you have already obtained or purchased a smart card reader and cannot locate the hardware driver installer, please contact the manufacturer.

1.4 Administrative Privileges

The user needs sufficient privileges to install and update software on Windows in order to successfully follow the procedures in this manual. If the user is unable to install software due to permissions, then he/she must coordinate with the computer's owner or the organization's system administrator(s).

CHAPTER 2
Installing DoD Root Certificates

2.1 Background

It order to utilize a CAC on a personal computer, it is necessary to install the DoD Root Certificates, which are common to all users. To simplify and automate the process of installing DoD Root Certificates, the Defense Information Systems Agency (DISA) developed a software package, known as **InstallRoot**. The software package is available for download from the Information Assurance Support Environment (IASE) website, sponsored by DISA.

2.2 Basic Steps

Follow these steps to install the DoD Root Certificates on Windows.

1. Download the latest **InstallRoot** software package from the IASE website. (This website is publicly accessible and does not require a CAC). https://iase.disa.mil/pki-pke/Lists/Master-List/AllItems.aspx

    Scroll down the page to find the "**InstallRoot 5.2: NIPR Windows Installer**". Select the version (32-bit, 64-bit, or Non Administrator) that you wish to install based on the information gathered during ***Step 1.3*** above.

2. Click the file name and select **Save** to download the file. Once the download is complete, locate the downloaded file and double click to start the installation wizard.

3. On the *Welcome* screen of the wizard, click **Next >**
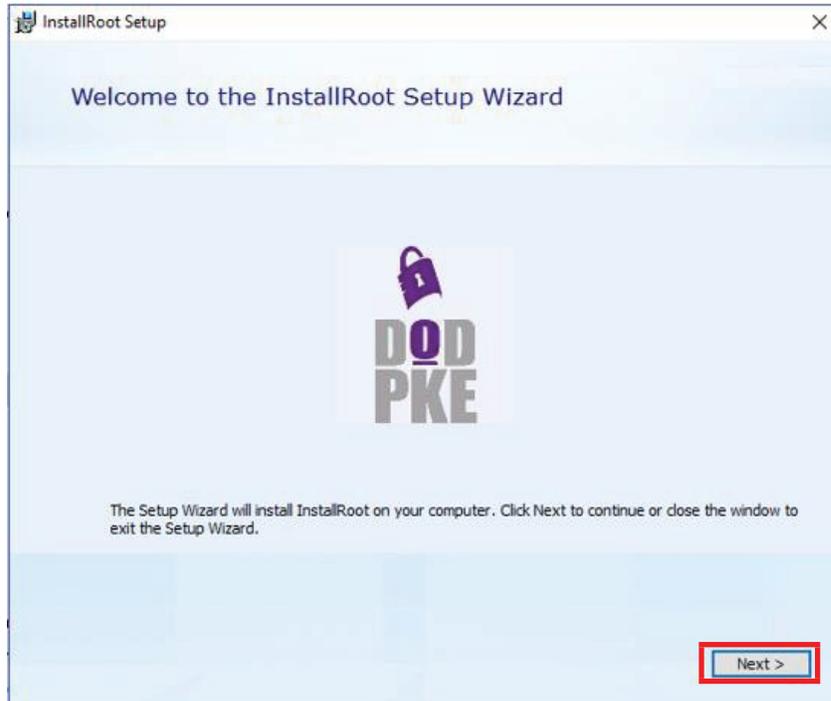
4. On the *Choose a file location* screen of the wizard, click **Next >** to select the default path
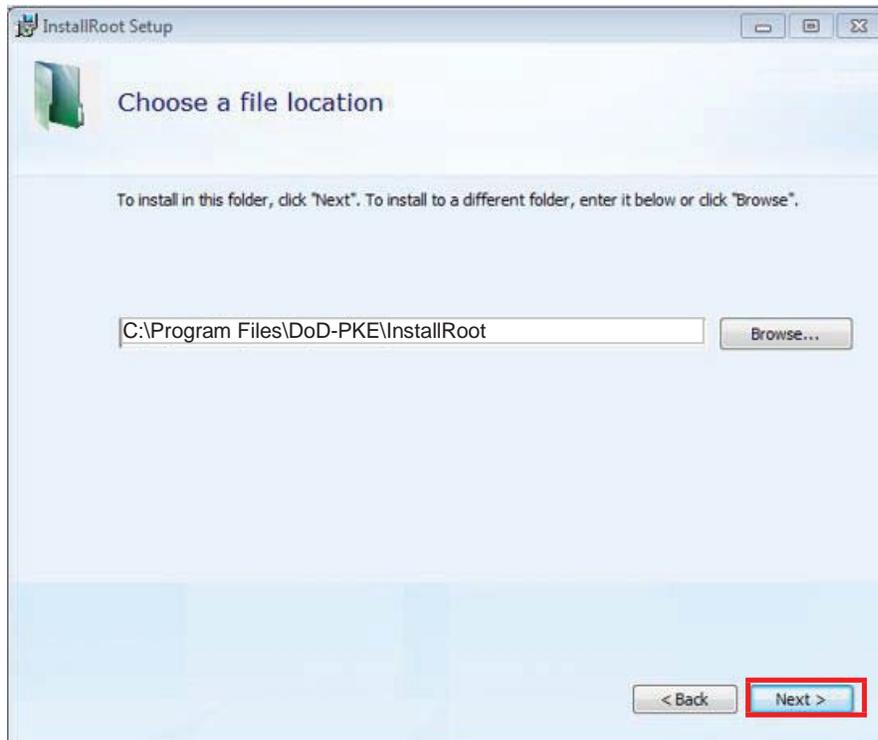
5. On the *InstallRoot Features* screen of the wizard, click **Next >** (all the features are selected to be installed by default). Only Administrators will be presented with the "Windows Service" option.
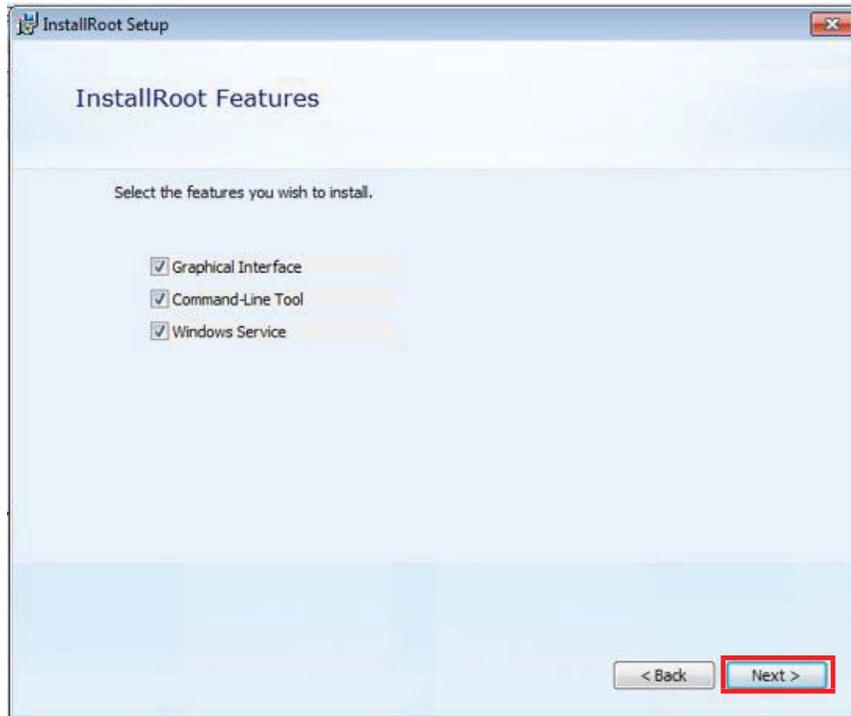
6. On the *Begin Installation* screen, click **Install**
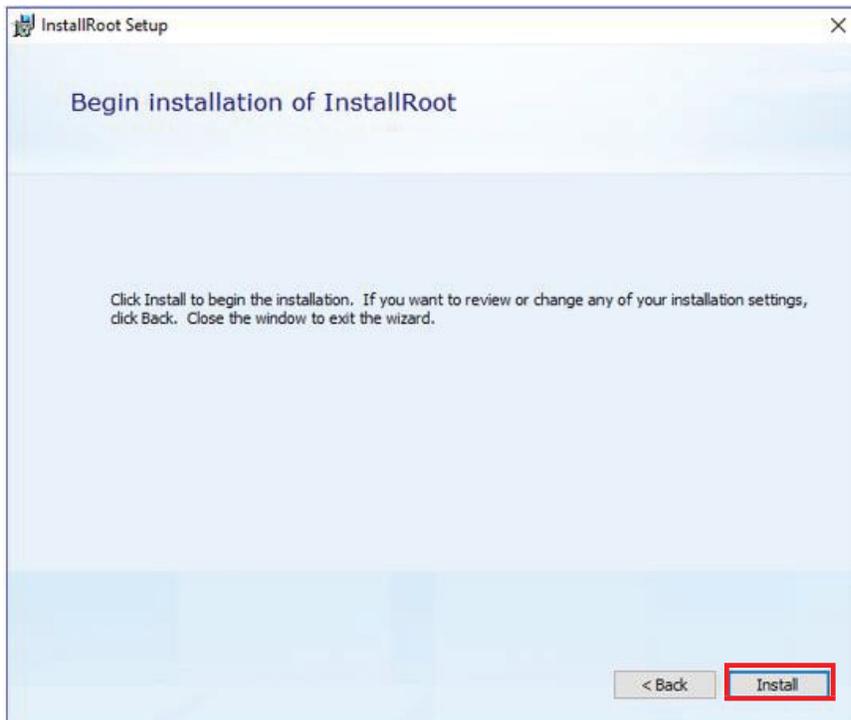
7. A loading bar will display the status of the installation.
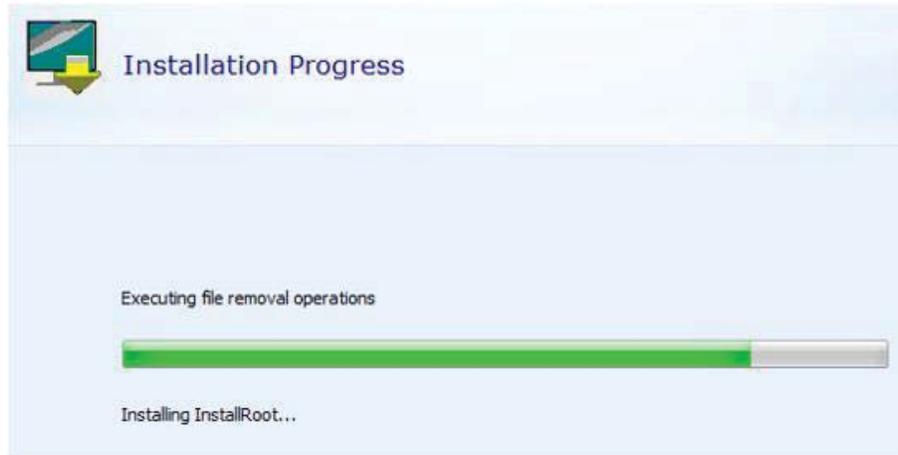
8. When the wizard completes installation, click **Run InstallRoot** to launch the application interface.
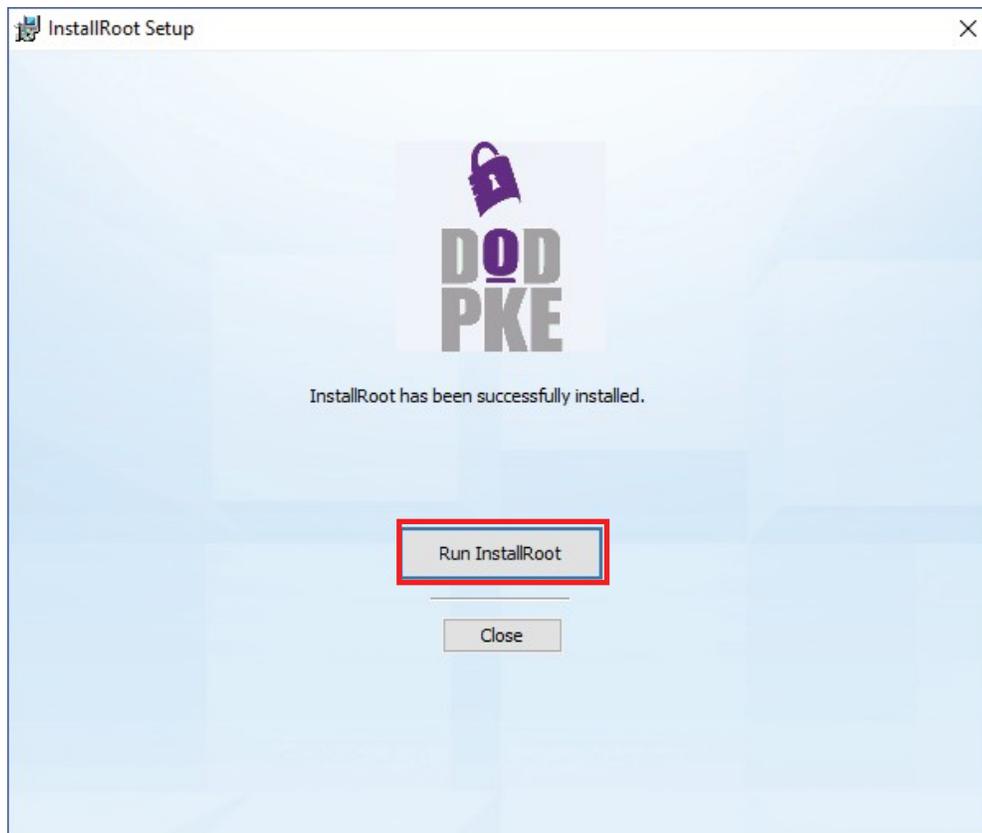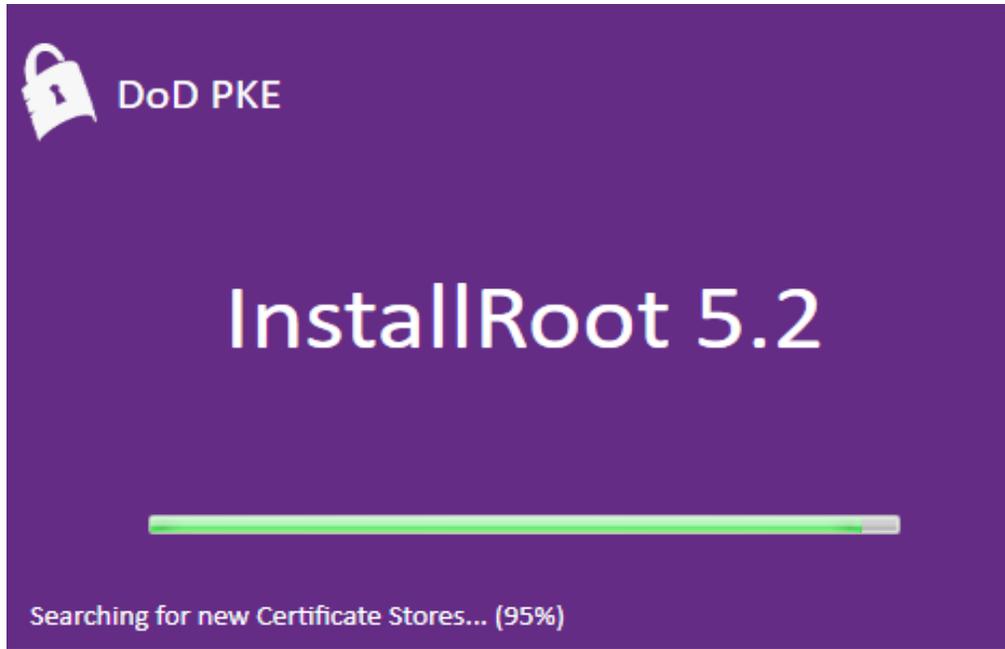
9. You may be presented with the following message. Select whether to allow InstallRoot to manage the JAVA certificate stores or not.

10. When InstallRoot launches, the **InstallRoot** application window will appear.
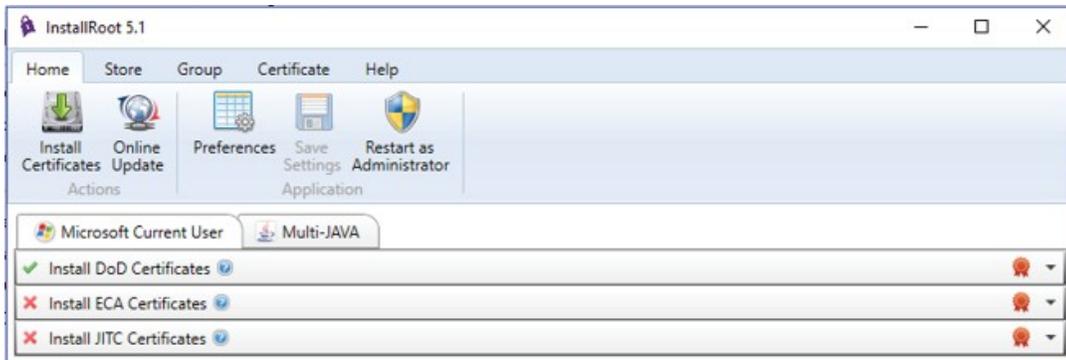
11. Go to the **Home** tab and click the **Install Certificates** icon.
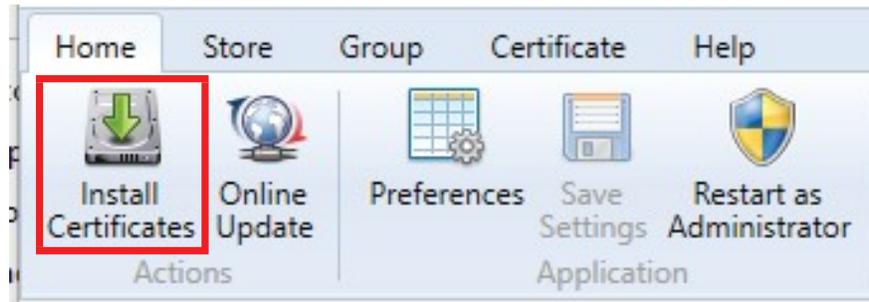
12. A status window may appear describing certificates that were added or deleted. Click "OK" to close.
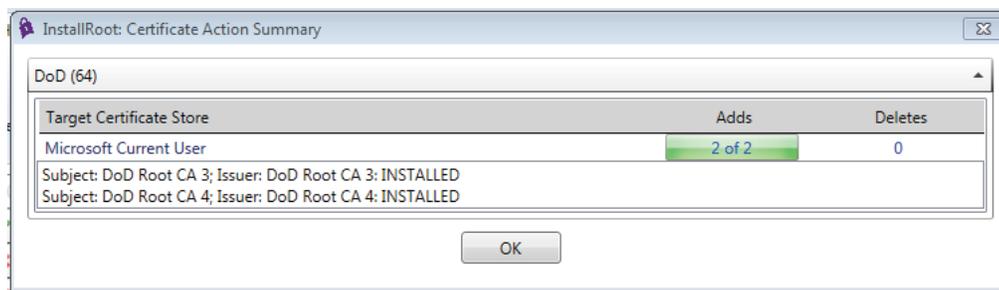
13. In the **Security Warning** window, click **Yes** if you want to install the certificate.
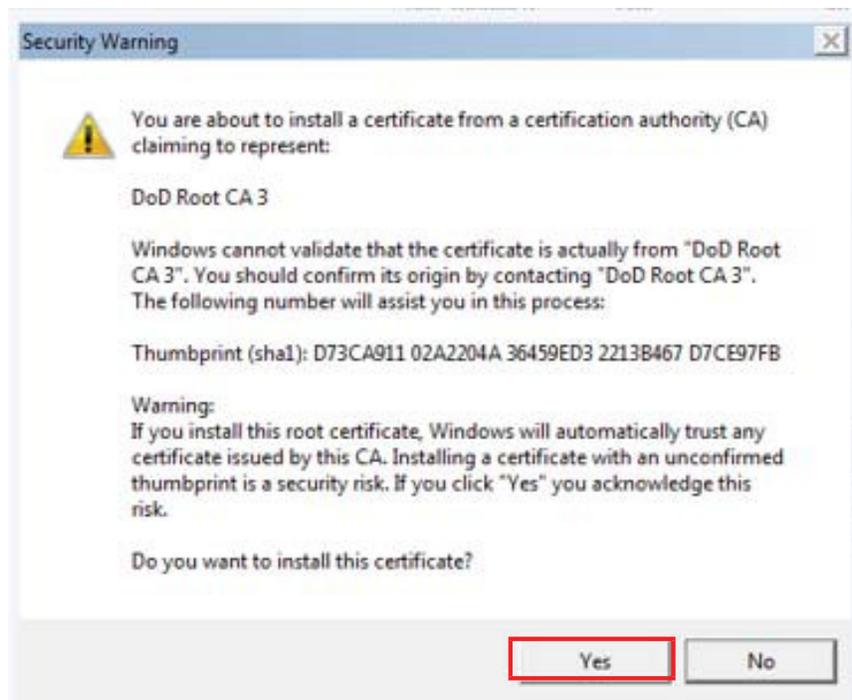
14. Once the installation completes, verify that there is a green check mark next to
    ✓ **Install DoD Certificates** below the **Microsoft Current User** tab.

15. In the top right corner of the **InstallRoot** window, click X to close the InstallRoot
    program.

16. If the **InstallRoot** program asks you to save before exiting, click **Yes**.
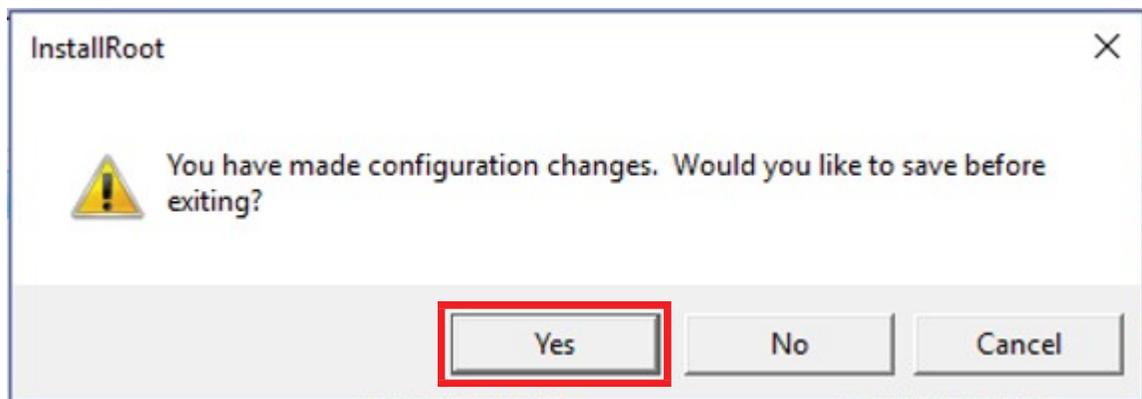
This completes the CAC Reader and DOD Certificates installation process. You should now be able to use your personal computer to access CAC restricted sites such as DTS.

If you have questions about additional configurations required to access specific Service or Agency CAC restricted websites or applications, see the link below for Service or Agency POC information.
https://iase.disa.mil/pki-pke/Pages/contact.aspx

NOTE: This guide was adapted from TM-16-01-090_Guide_CAC-Enable_Windows_v2.0.0.pdf available at
https://intelshare.intelink.gov/sites/usaf-pki/_layouts/15/start.aspx#/SitePages/CAC%20-%20Home%20Use.aspx