

NIST/ITL CSD Biometric Conformance Test Software Web

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1. Disclaimer

NIST/ITL BioCTS Web

October 2010

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2. NIST/ITL CSD Support for Biometrics Standards and Conformance Testing

NIST/ITL Computer Security Division supports the development of biometric conformance testing methodology standards and other conformity assessment efforts through active technical participation in the development of these standards and the development of associated conformance test architectures and test suites. These test tools are developed to promote adoption of these standards and to support users that require conformance to selected biometric standards, product developers and testing labs.

3. BioCTS Overview

BioCTS is a traditional desktop based application developed in Microsoft® C# used as either the installer Graphical User Interface, or Command Line to test conformance to Biometric Data Interchange Records. There are two Conformance Test Architectures (CTAs):

- Tests Implementations of ANSI/NIST-ITL 1-2011 and ANSI/NIST-ITL 1-2011 Update: 2013
- Tests Implementations of select ISO/IEC 19794-X Generation 1 & 2 Data Formats, ANSI/INCITS, and several PIV Profiles of Standards

The software tests 1000s+ of files in a single Batch Test, allows editing of files, and provides charts, and detailed test results in text and XML formats.

4. Overview

BioCTS Web is a Web-Based application that runs BioCTS Conformance Test Suites (CTSs) within an Active Server Page (ASP) running Microsoft® .NET software (ASP.NET). Once installed on a server, BioCTS Web allows for remote testing through a web browser. This document details the steps needed to install BioCTS Web on an end-user computer, running Microsoft® Windows® 7, for evaluation.

4.1. Requirements

Required Windows® Features that must be turned on:

- Internet Information Services
 - Web Management Tools
 - IIS Management Console
 - World Wide Web Services
 - Application Development Features
 - .NET Extensibility
 - ASP.NET
 - ISAPI Extensions
 - ISAPI Filters
 - Common HTTP Features
 - Default Document
 - Directory Browsing
 - HTTP Errors
 - Health and Diagnostics
 - HTTP Logging
 - Request Monitor
 - Performance Features
 - Static Content Compression
 - Security
 - Request Filtering

Additional Required Software:

- Web Deploy (<http://www.iis.net/downloads/microsoft/web-deploy>)
 - x86 English Download: <http://go.microsoft.com/fwlink/?LinkID=309495>
 - x64 English Download: <http://go.microsoft.com/fwlink/?LinkID=309497>

5. Guide

5.1. Download and Installation

Steps to Install Internet Information Services for Windows®, using Microsoft® Windows® 7

1. Open Control Panel, Click on **Programs and Features**

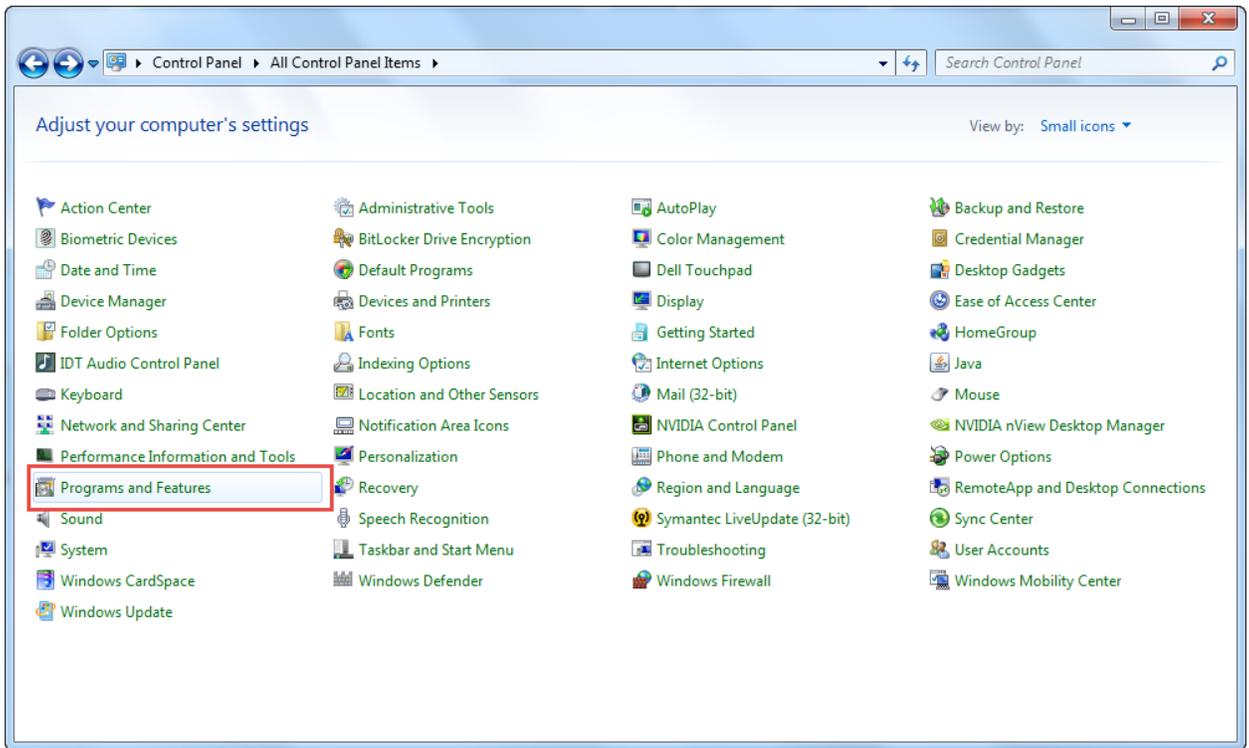


Figure 1 - Selecting Programs and Features

2. Click on **Turn Windows features on or off** in the left panel

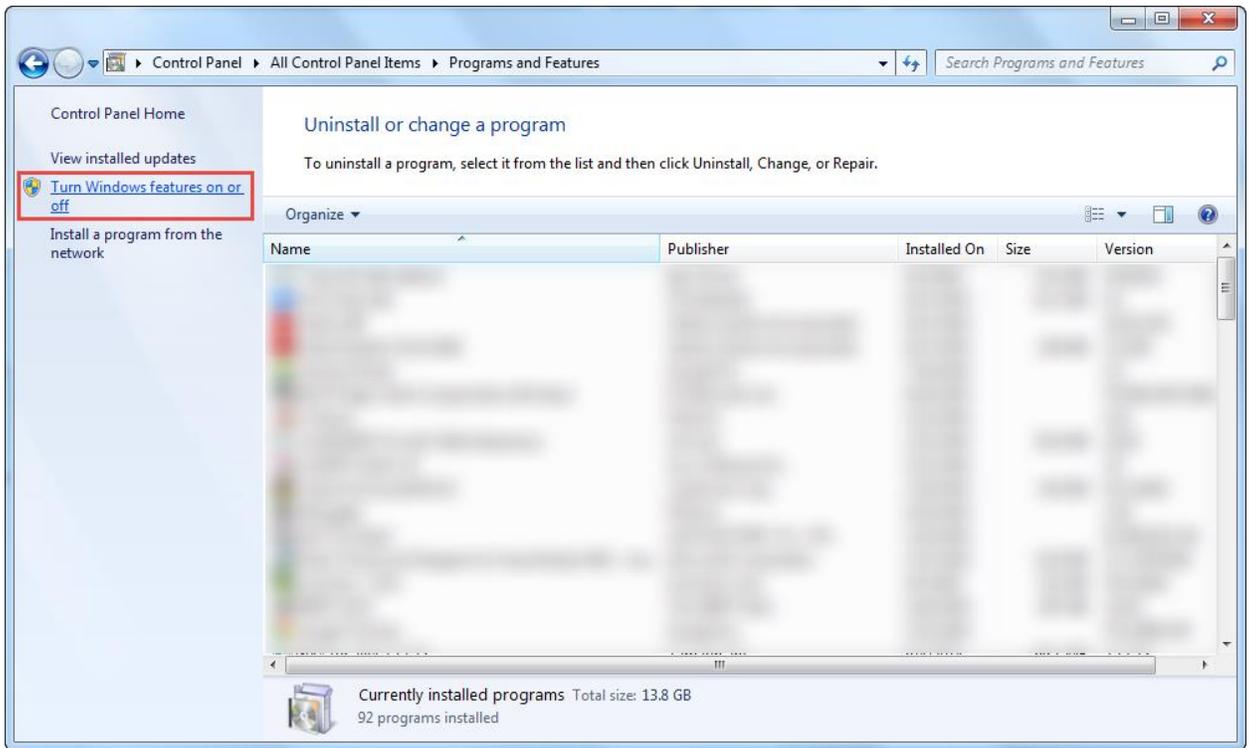


Figure 2 - Selecting Turn Windows Features on or off

3. With an internet connection, Check **Internet Information Services**, as well as any feature not checked that is mentioned in the Requirements Section above, wait for them to install

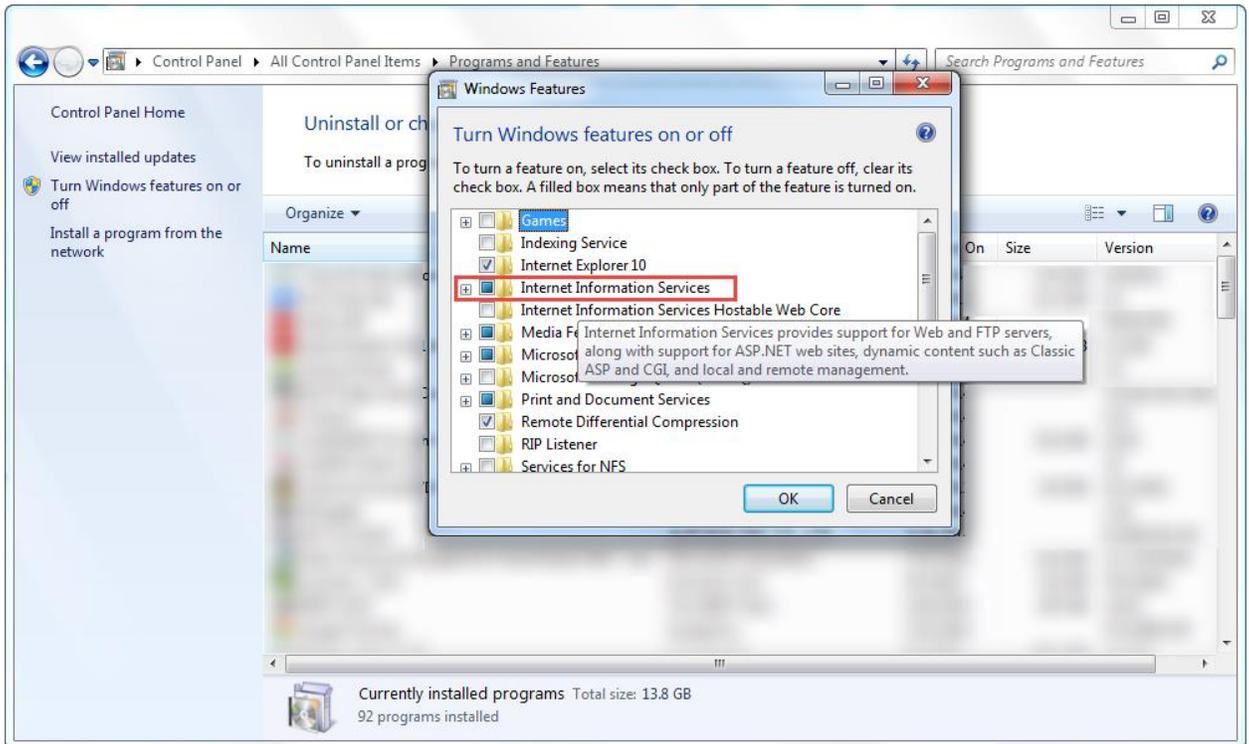


Figure 3 - Enabling Internet Information Services

4. Navigate to the IIS website and download Web Deploy 3.5, installing after the download completes (<http://www.iis.net/downloads/microsoft/web-deploy>)

5. After everything is installed, start the IIS Manager by pressing the Start button and typing "inetmgr" into it

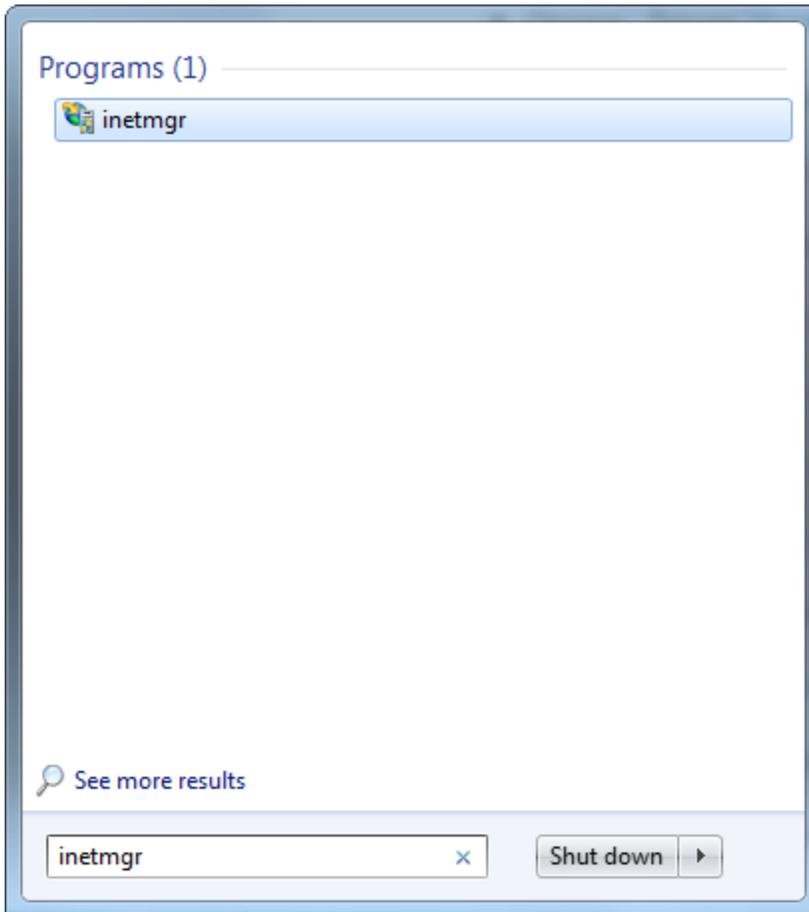


Figure 4 - Start Command to Launch IIS Manager

6. After starting the IIS Manager, it should look similar to the following

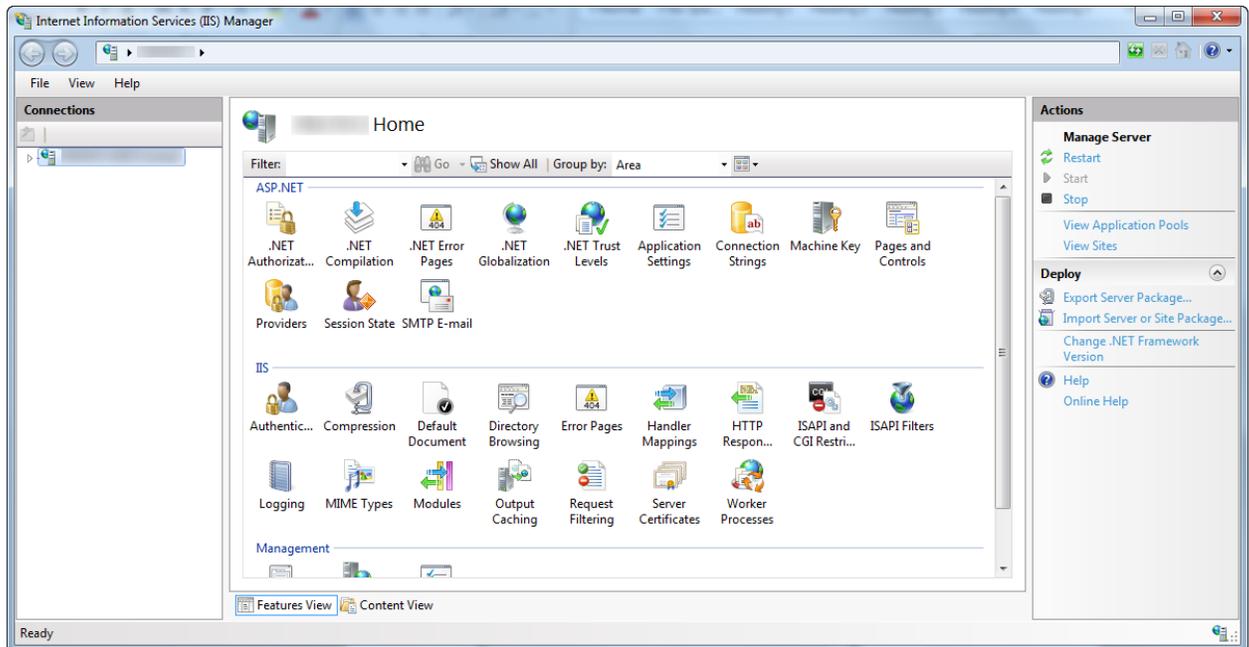


Figure 5 - IIS Manager

7. Expand the Left Panel under Connections until the section Sites is visible, click Add Web Site...

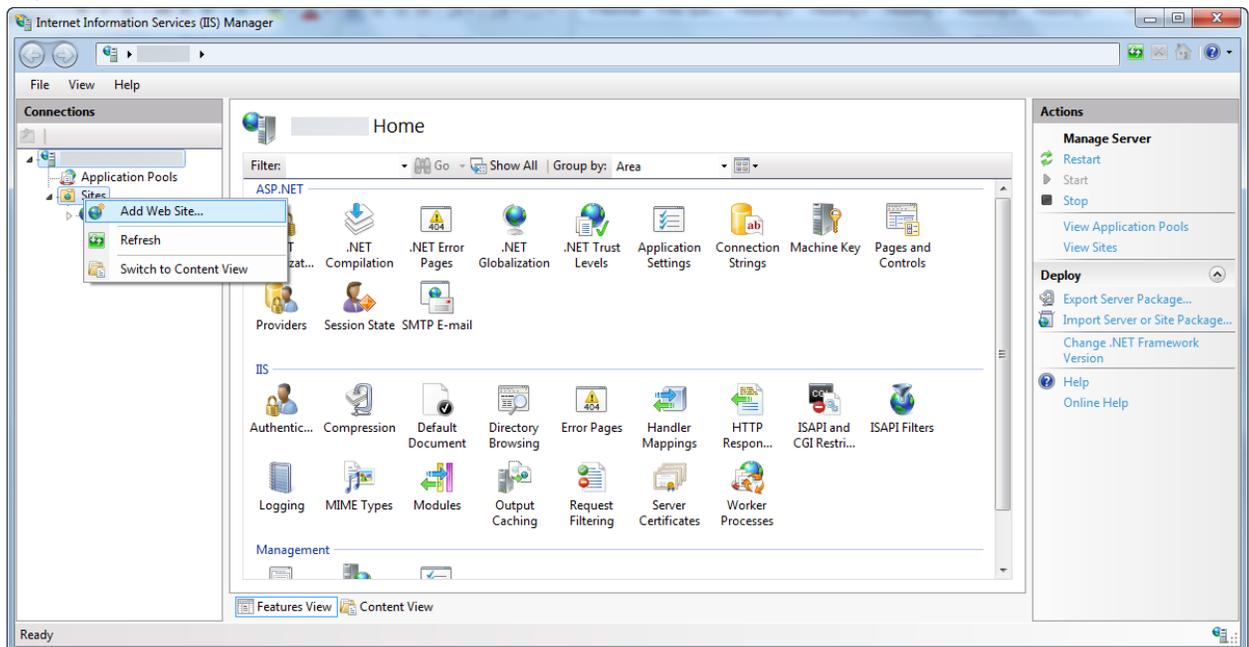


Figure 6 - Adding a new Site to IIS Manager

8. The following features were used to test BioCTS Web

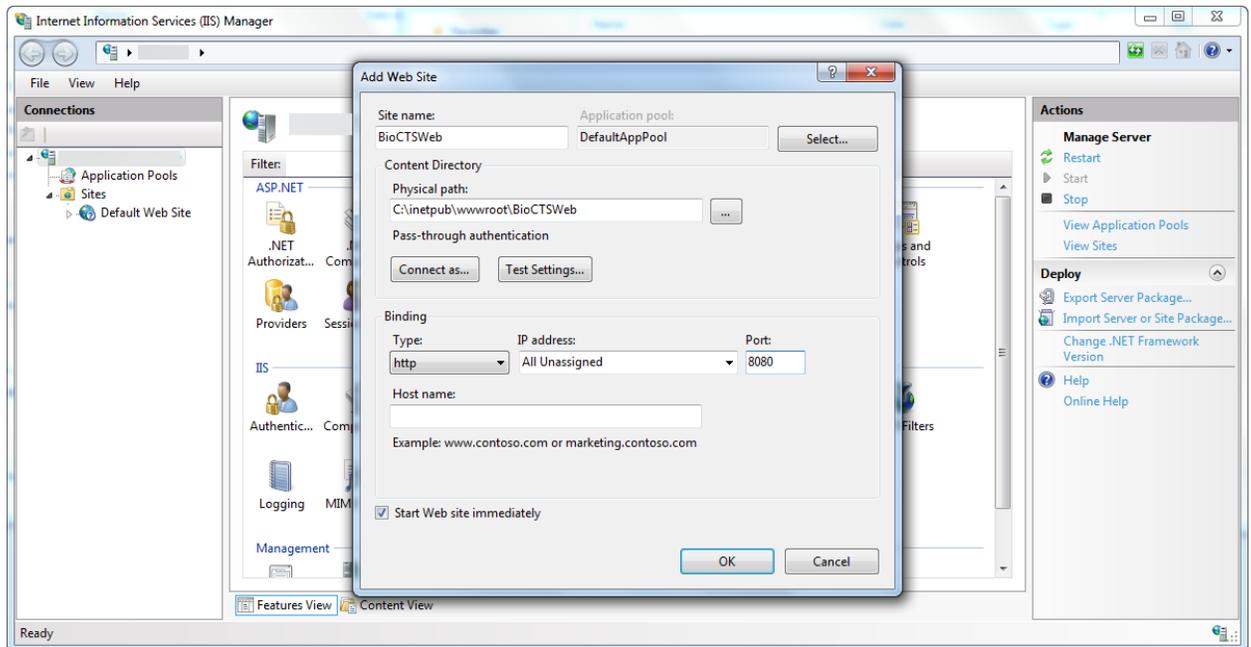


Figure 7 - Adding a Website

9. After the Web Site has been added, the BioCTS Deployment Package can be imported. Click on BioCTS Web, then Import Application on the right

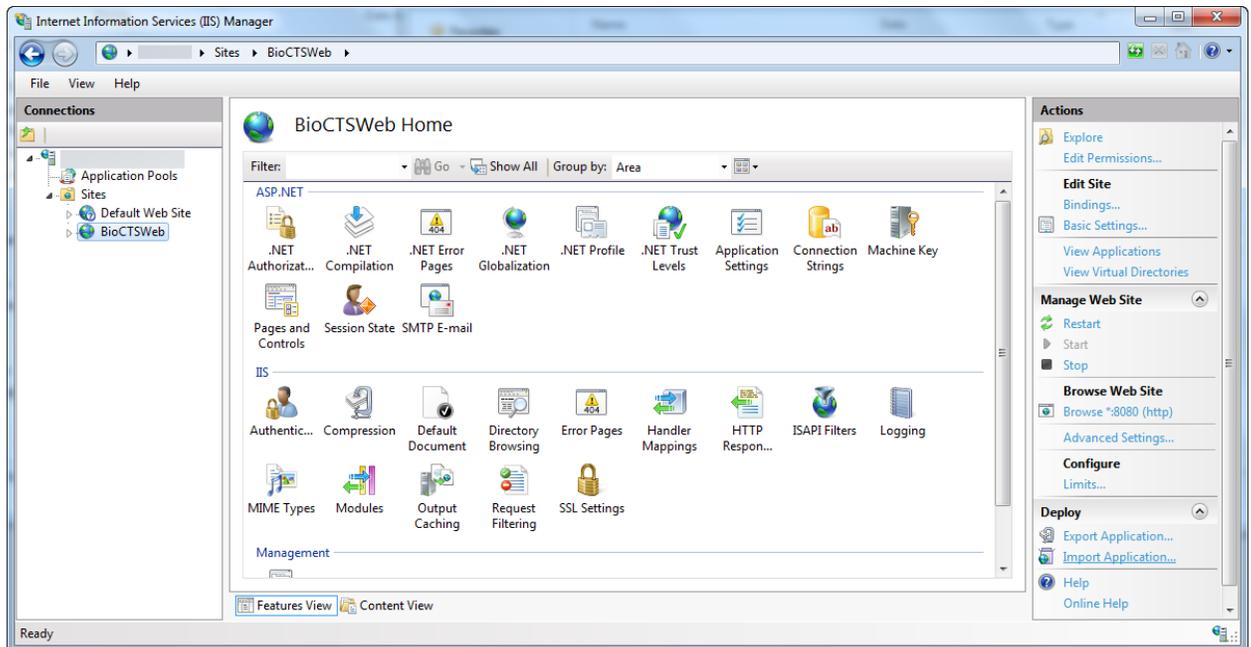


Figure 8 - Importing an Application

10. Specify the path to the location where the BioCTSWebPackage was unzipped, and specify the file contained within it titled BioCTSWeb.zip, click Next

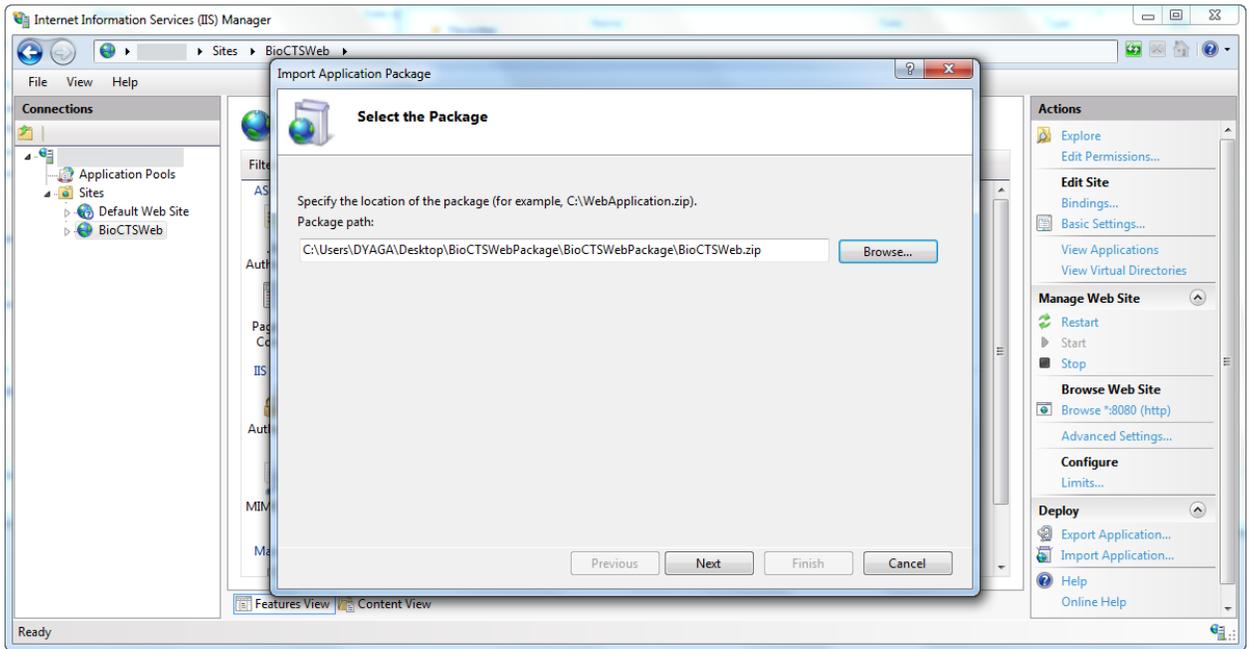


Figure 9 - Selecting the Import Package

11. Ensure all components of the package are selected, click Next

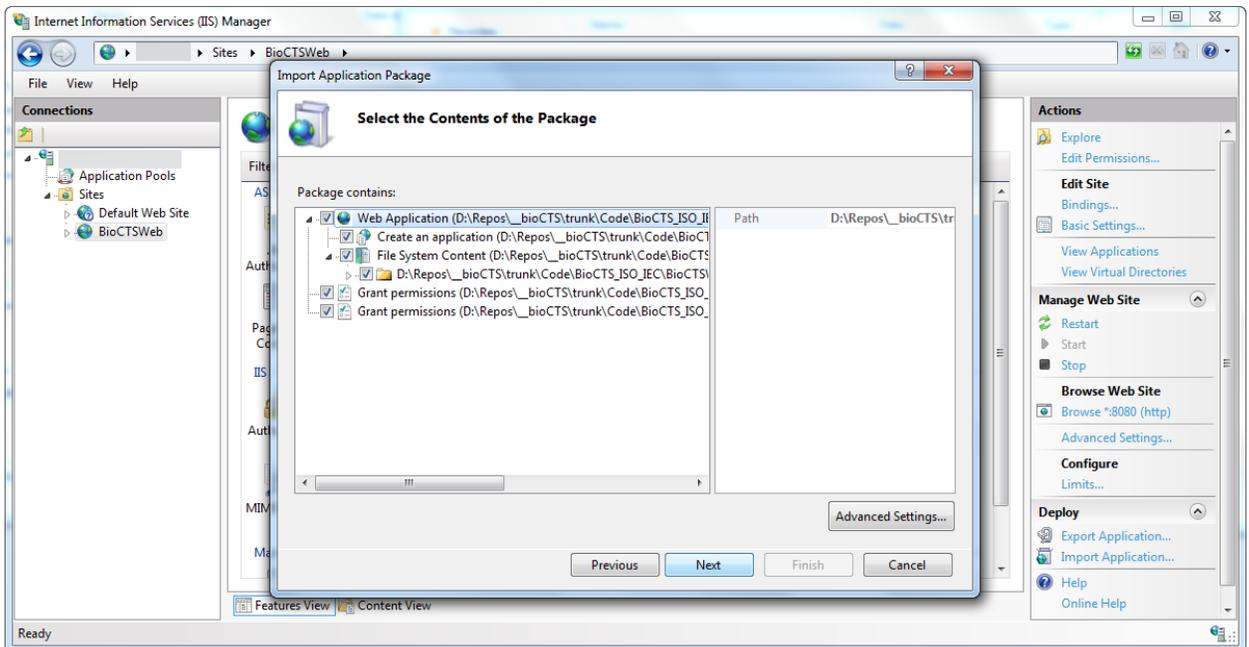


Figure 10 - Ensuring all Components are Checked

12. Give the Application a name and path – here BioCTSWeb was used, click next

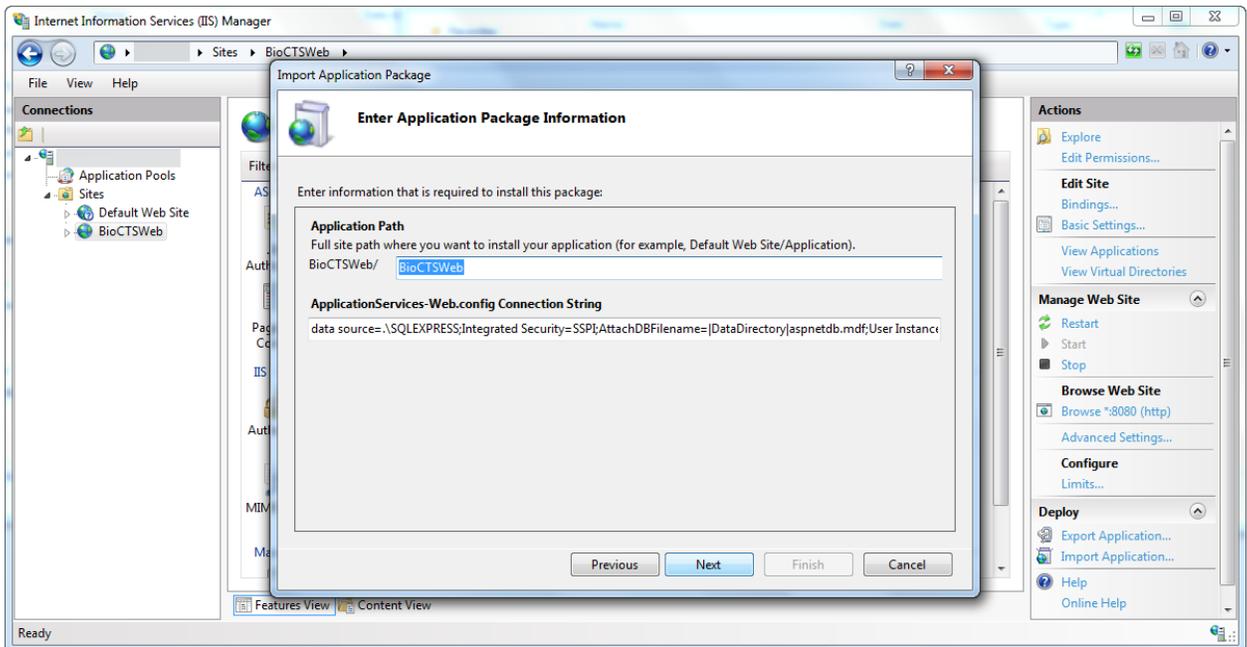


Figure 11 - Giving the Application a Name and Path

13. After the package is imported, it will report a summary similar to this

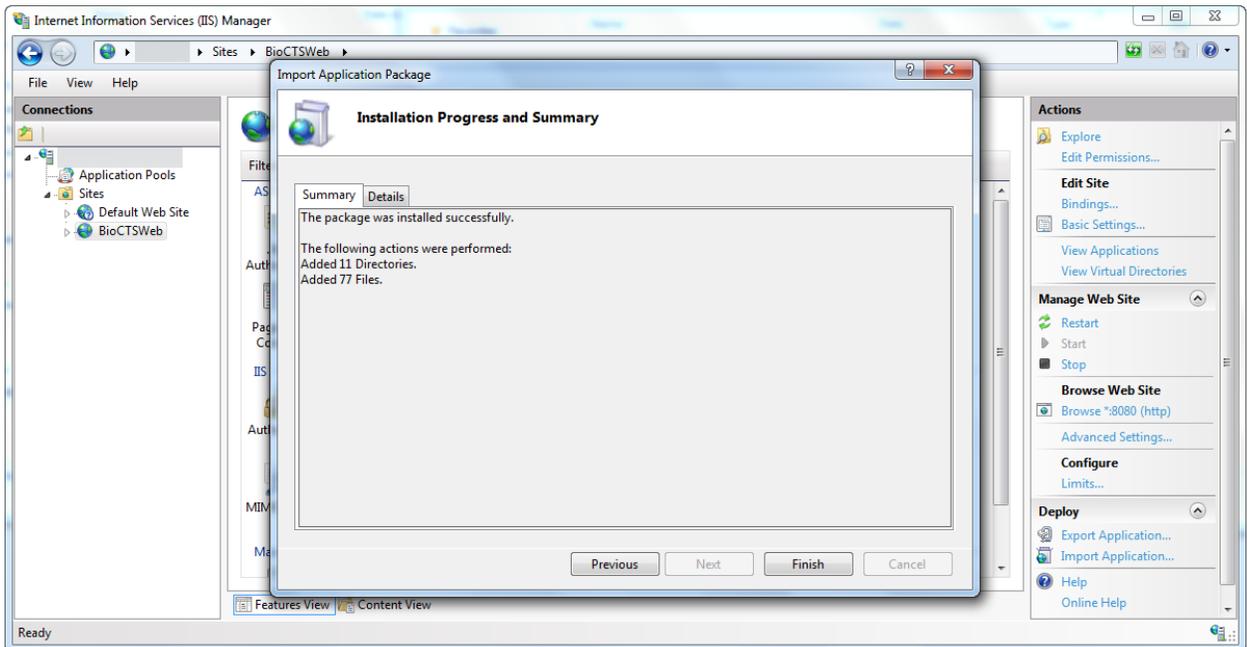


Figure 12 - Reviewing the Summary

14. When back at the IIS Manager, expand the section on the left, under Sites to show the new BioCTSWeb application under the BioCTSWeb site. It can be navigated to by selecting Browse

from the right hand column

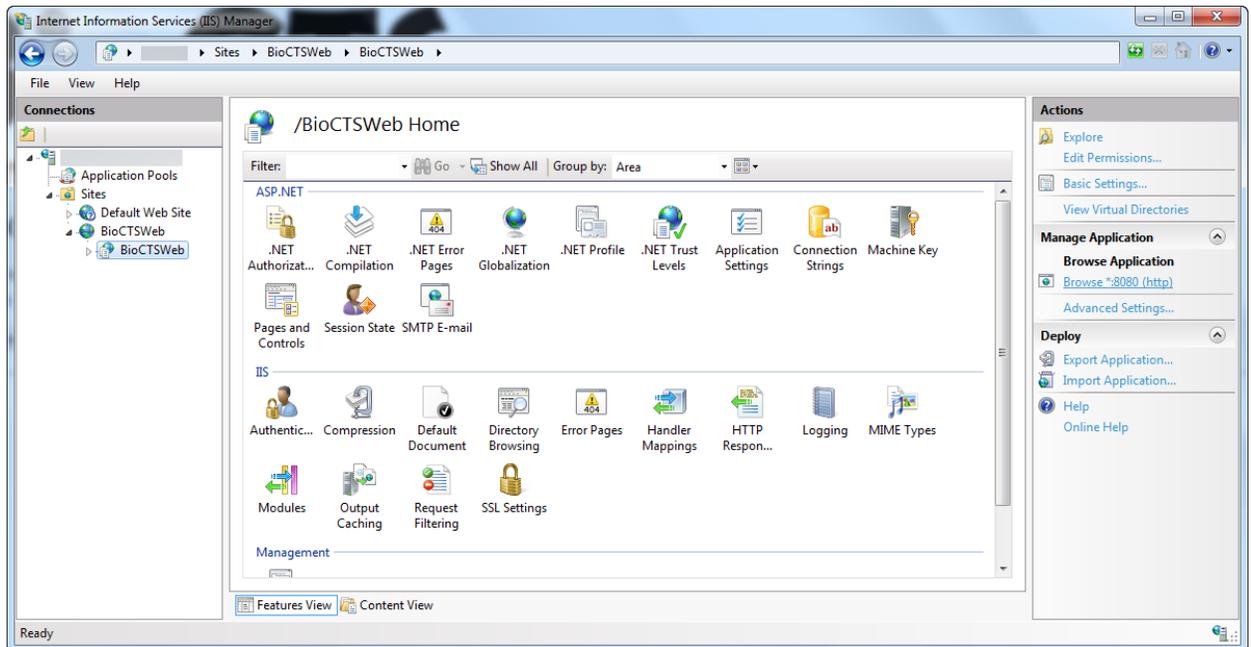


Figure 13 - Browsing to the new Application

15. BioCTS Web should be up-and-running

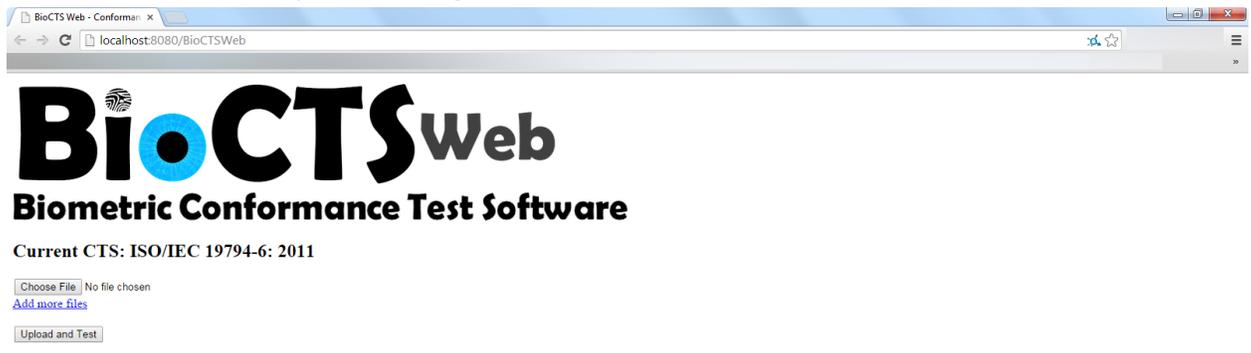


Figure 14 - BioCTS Web Up-And-Running

5.2. Running the Conformance Test Architecture

If following all of the above instructions in Installation section, BioCTS Web can be accessed by the following URL <http://localhost:8080/BioCTSWeb>

BioCTS Web currently supports a single Conformance Test Suite that tests implementations of the ISO/IEC 19794-6: 2011 standard¹, but is being expanded to support of CTSs.

To use the software, click the “Choose File” button, and browse for a file to test; hitting “Add More Files” when necessary. Finally, pressing “Upload and Test” will perform the conformance testing on the specified files, and display the Overall Result, as well as a detailed test log.

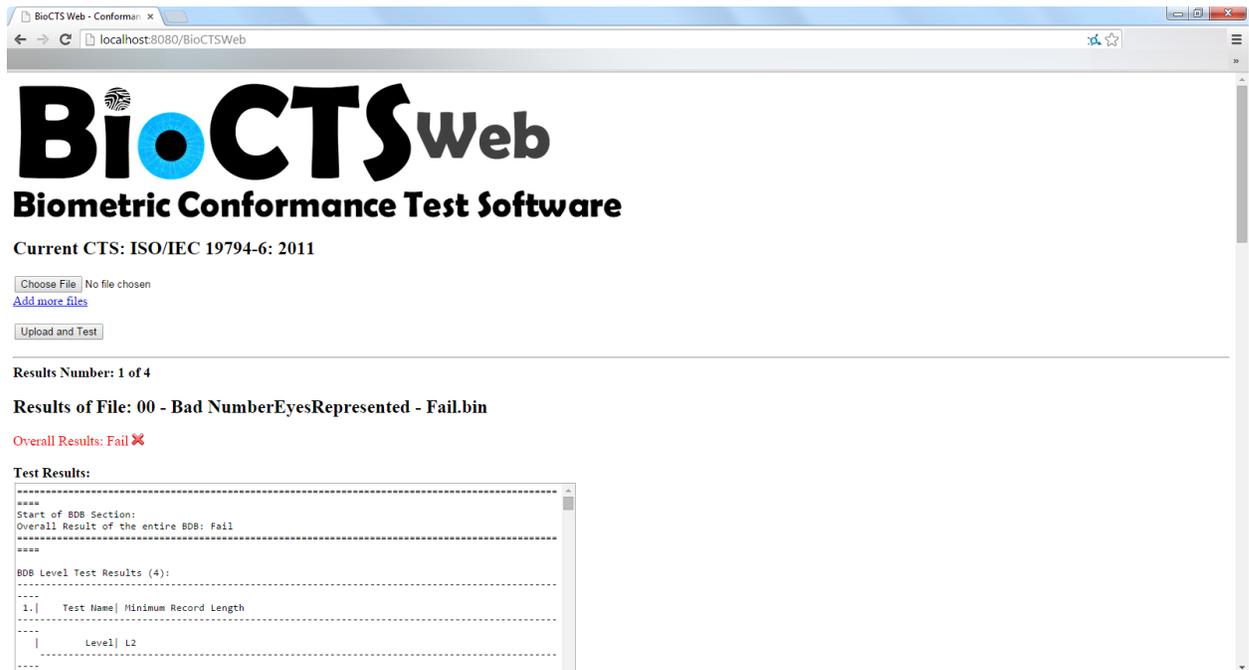


Figure 15 - BioCTS Web after a test of 4 Files

¹ ISO/IEC 19794-6: 2011 Biometric data interchange formats – Part 6: Iris image data