Required Software Installation for using the DHS Section 508 Compliance Test Process for Applications

March 2015 | Version #1.2

About this installation guide

This guide provides guidance on how to install the required testing software that will be used by DHS Trusted Testers following the DHS Section 508 Compliance Test Process for Applications.

This guide also provides minimum system requirements (hardware and software), and recommendations for an appropriate workstation environment for testing.

Installation Instructions

Note: Installation may take as little as an hour, or as long as six weeks depending on a number of factors that are explained below.

Who should use this guide?

- Trusted Testers and students taking the DHS Trusted Tester Training Course should follow the steps outlined in this guide. **Do not simply hand this guide to your IT Support Personnel.**

- This guide **may also be used** by IT Support Personnel if you do not have sufficient administrator rights to install software and make changes to your PC or if group policies must be modified to permit the use of these tools on the PC that will be used for testing.

Where to get help

If there are items in this guide that you need help on, we recommend:

- **First, try:** www.google.com

- **Second, try:** Consulting your own IT Support Personnel

- **Third, try:** Contacting the DHS Accessibility Helpdesk at accessibility@hq.dhs.gov

Deciding where to install the software

Before you decide where to install the software, consider the following questions. There are no correct answers. These questions are intended to help you make the most appropriate choice that will work for you:

Where you'll work?

You may be required to work at a specific location. For the long term you will need the software to be installed where you are working.

Home equipment or Government Furnished Equipment?

Some software will **require Admin Rights** during installation.

- For a home / personal computer, you should have administrator rights and the installation could take just an hour or so.

- For Government Furnished Equipment (GFE), you may not have administrator rights and will need IT Support personnel to perform the installation. There may be restrictions on the type of software you are allowed to install. Security concerns and policies at your agency may require that the software be tested and approved prior to installation. Testing will usually include **videos** shown in the Internet Explorer window, but some agencies prohibit streaming of videos to their GFE. Security concerns at your agency may also preclude the required settings for Internet Explorer (see requirements, page 4). If in doubt, consult your IT Support Personnel to verify that these settings can be achieved and videos can be streamed when testing.

Where will I have the optimum setup?

Consult the list of requirements (page 4). When you have the recommended setup, you will find it easier to conduct the tests than if you only had the minimum setup. For example:

- Two screens are recommended. This will enable you to have the test tools open on one screen, and an application that you are testing open on another screen. During testing you may have multiple windows open simultaneously, so the more screen 'real estate' you have, the easier it will be to work.

- A full size keyboard is recommended. You may be used to working on the couch with your laptop, but you'll quickly find this method will be unwieldy. Apart from the recommendation to have two screens available, you will have printouts of the test process and test results to contend with. Something resembling a regular workstation including an external mouse and keyboard, along with plenty of desk space, will help you test more efficiently.

Minimum and Recommended System requirements

The following requirements must be met prior to testing. If you do not know how to check the following requirements, consult help as needed (see page 2).

Hardware

- **PC. Note:** The testing environment used in the test process is on the PC platform. It may be possible to run the testing on a Mac using PC/Windows emulation software, but this has not been verified.

  - 2GB RAM

  - Processor 800 MHz (minimum) / 1.6GHz (recommended)

  - 16-bit sound card and headphones / speakers (minimum)

- **Monitor(s):** 1 monitor set at 1024x768 (minimum) / 2 monitors set at 1024x768 or better (recommended)

- **Keyboard:** Laptop keyboard (minimum) / External physical full-size keyboard (recommended). **Note:** Tablet PCs with on-screen keyboards are not permissible for testing

- **Mouse:** Standard mouse

- **Printer:** Color printer (recommended). **Note:** It may be possible to follow the test process by reading the test process document and using test results sheets on screen, but it is highly recommended that these are printed out.

- **Internet connection**: 56kps+ (minimum), 1.5Mbps (recommended)

Software

- **Microsoft Windows:** XP Service Pack 3 (minimum) or Windows 7 (recommended). **Note:** Windows 8 is not usable for testing at this time.

- **Internet Explorer:** Version 8.0 (minimum) or 9.0 (recommended). **Note:** The Trusted Tester process is designed for IE only. Other browsers such as Firefox, Chrome will not work with the tests. **Use the following settings in IE:**

  - Pop-up blockers disabled

  - Cookies enabled at medium-low security level

  - Tools / Compatibility View Settings: uncheck "Display internet sites in compatibility view" and uncheck "Display all websites in Compatibility View".

- **Java Runtime Environment:** Version 7, update 6 or later (minimum). Available from www.java.com. The latest version available to download at this time of writing is Version 7, update 45. **Note:** use Control Panel > Programs > Java > General tab > About button to view to check installed version.

Other software typically used

- **Windows Media Player:** Version 9+ (recommended). This should be installed by default with Windows.

- **Adobe Flash Player:** Version 11+ (recommended). Available from www.adobe.com.

- **Adobe Acrobat Reader:** Version 10+ (recommended). Available from www.adobe.com.
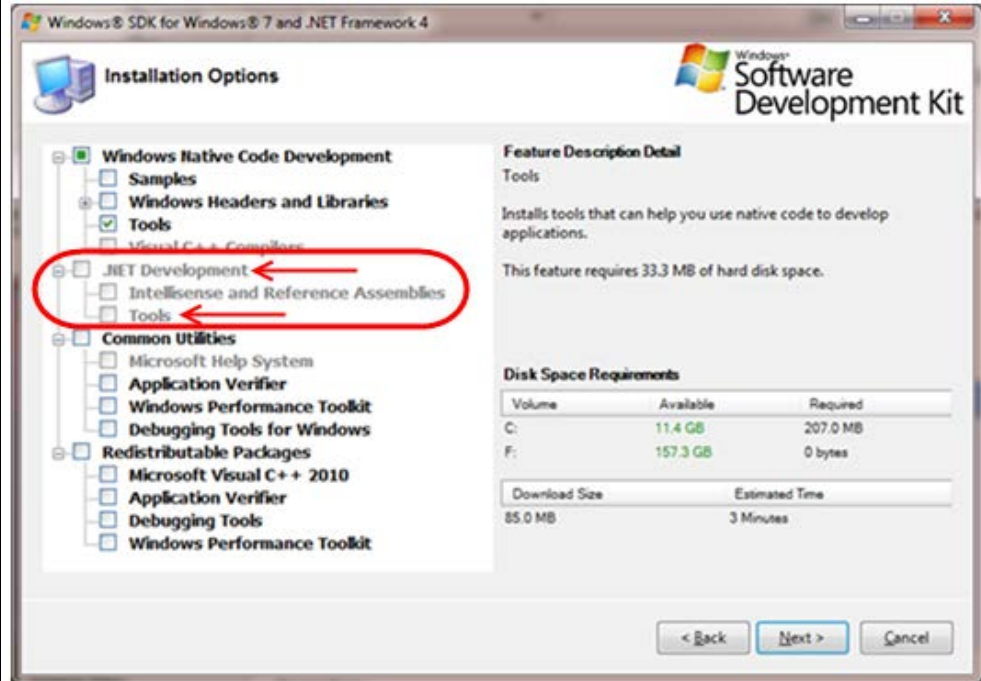
Software installation

All of the following software must be installed and verified to be working prior to testing. Each of the software tools below include installation advice, as well as a screen shot of what the software should like, and advice on how to verify that the software is working.

Inspect

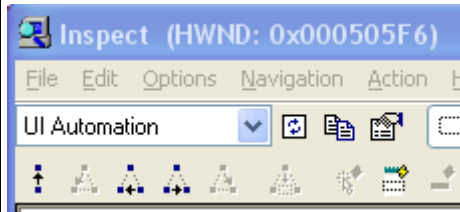|	
Official name	Inspect
Also Known As	Object Inspector 32; Inspect Objects
Download from	http://www.section508testing.org/tools
Purpose for 508 testing	Reveals the Name, Role, State and Value of software elements.
Developed by / Owned by	Microsoft Corporation
Current version at the time of writing	Microsoft Windows SDK for Windows 7 and .NET Framework 4, Version 7.1

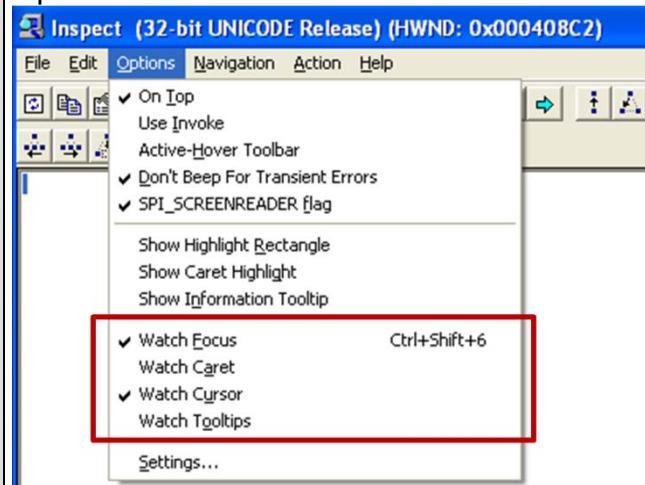| Installation advice	• Admin rights are required to install this tool. • During the installation options phase, choose 'Windows Native Code Development', then '.NET Development', then 'Tools': • After installation, the Inspect may be located in the start menu program group named 'Microsoft Windows SDK'.

Settings that will be used in the course	Select UIAutomation: Inspect (HWND: 0x000505F6) File Edit Options Navigation Action H UI Automation Options: Inspect (32-bit UNICODE Release) (HWND: 0x000408C2) File Edit Options Navigation Action Help ✔ On Top Use Invoke Active-Hover Toolbar ✔ Don't Beep For Transient Errors ✔ SPI_SCREENREADER flag Show Highlight Rectangle Show Caret Highlight Show Information Tooltip ✔ Watch Focus Ctrl+Shift+6 Watch Caret ✔ Watch Cursor Watch Tooltips Settings...
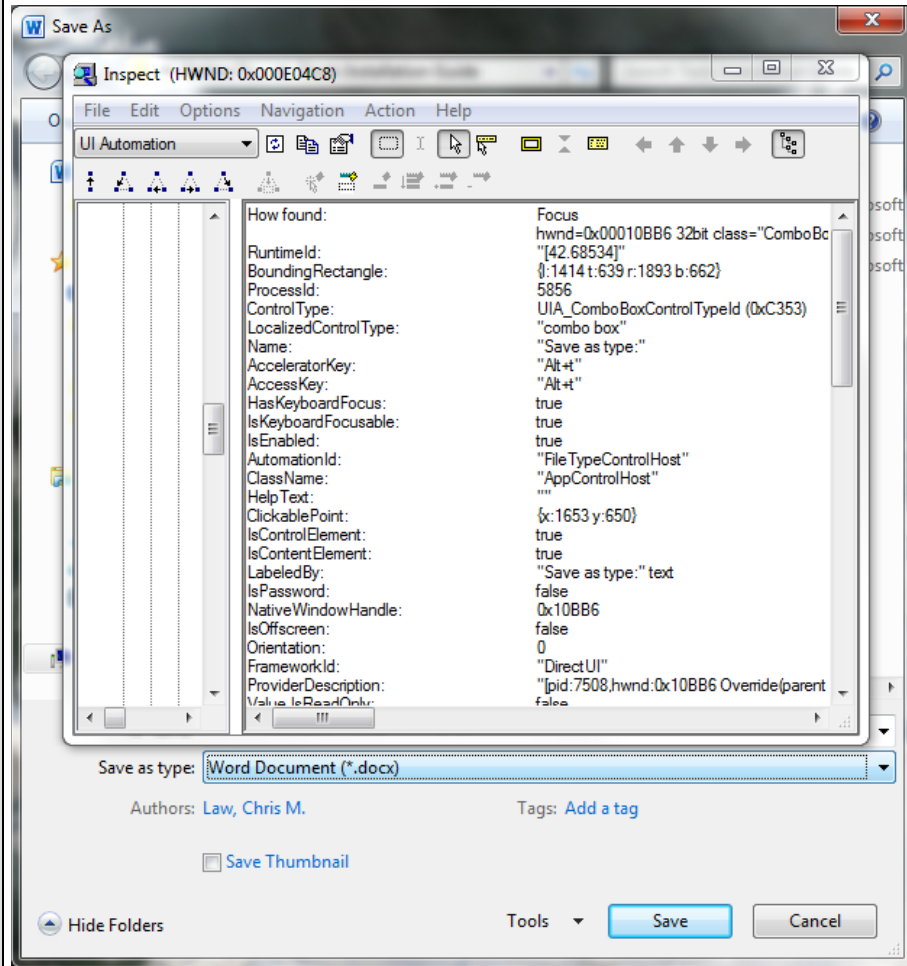
|	
What it should look like on your screen	
How to verify the software is working	Open Inspect, then open another Windows application (e.g., calculator). Select various items in the Windows application. You should see the list of items in the Inspect window updating each time you select a new item.

Java Ferret

Official name	Java Access Bridge (for the main software) Java Ferret (for the component within the main suite)
Also Known As	Java Access Bridge (note version 2.0.2 is current)
Download from	http://www.section508testing.org/tools
Purpose for 508 testing	Reveals the Name, Role, State and Value of Java software elements
Developed by / Owned by	Oracle Corporation
Current version at the time of writing	Java Access Bridge 2.0.2

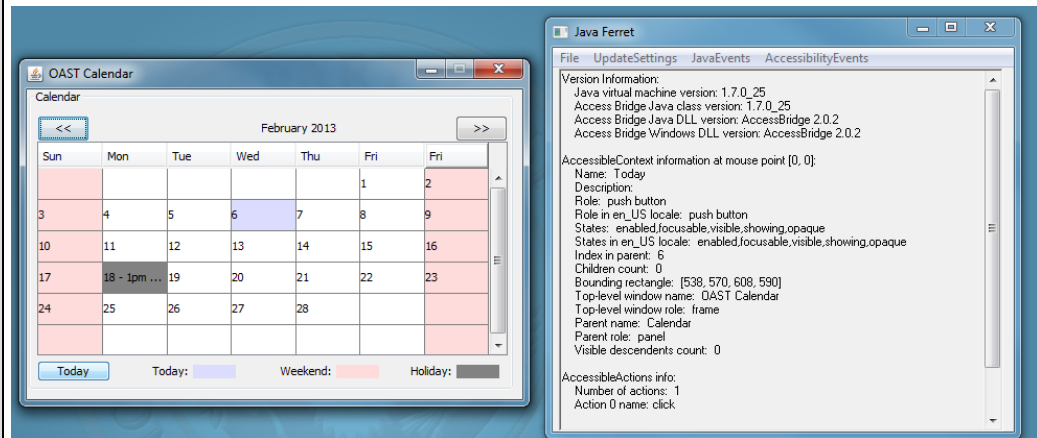| Installation advice	• Admin rights are **required** to install Java Runtime Environment (JRE) if necessary. Admin rights are **not required** to download and run Java Ferret.
	• There are 32 and 64 bit versions of Java Access Bridge. Check Java developers' installation instructions: http://docs.oracle.com/javase/accessbridge/2.0.2/setup.htm
	• If you have Java 7u6 or later installed, the Access Bridge automatically comes with the JRE. You do not need to install the Access Bridge manually; however, you still need to download the Access Bridge from the website (link above) in order to retrieve Java Ferret.
	• Under Java 7u6 or later, you will need to enable the Java Access Bridge. The steps below will enable the Java Access Bridge for the current user for all versions of JRE 7u6 or later that are installed under your user account only. The steps must be repeated while logged into the account of each user for which it should be enabled if necessary. 1. Activate the Ease of Access Center by pressing Windows+U, or navigate to Start Menu > Control Panel > Ease of Access > Ease of Access Center. 2. Select "Use a computer without a display". 3. Check the "Enable Java Access Bridge" check box found in the "Other programs installed" section of the dialog box.
	• To open Java Ferret (or copy onto your Desktop), download the Access Bridge 2.0.2 zip file from Oracle's website (link above). Once downloaded, navigate to "JavaFerret.exe" and copy it on your Desktop and run it. If asked to run this software due to an unknown publisher, click "Run".
	More Java installation advice can be found at: http://docs.oracle.com/javase/7/docs/technotes/guides/access/enable_and_test.html
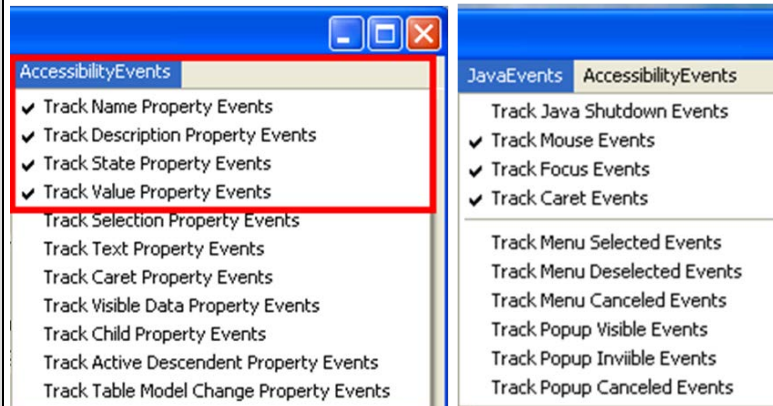
Settings that will be used in the course	 *Note: the above settings must be checked each time Java Ferret starts.*
What it should look like on your screen	
How to verify the software is working	Try these examples: 1. Java example 1: http://docs.oracle.com/javase/tutorialJWS/samples/uiswing/CelsiusConverterProject/CelsiusConverter.jnlp 2. Java example 2: http://docs.oracle.com/javase/tutorialJWS/samples/uiswing/TapTapTapProject/TapTapTap.jnlp Open Java Ferret and make sure you have the correct settings checked (see earlier step). Open the Java application. Select various items in the Java Application. You should see the list of items in the Java Ferret window updating each time you select a new item.

Web Accessibility Toolbar

Official name	Web Accessibility Toolbar 2012 for IE
Also Known As	Web Accessibility Toolbar - IE Plug-in WAT Toolbar WAT-C Toolbar
Download from	http://www.section508testing.org/tools
Purpose for 508 testing	Adds a toolbar to Internet Explorer to aid manual inspection of accessibility related elements on web pages.
Developed by / Owned by	Web Accessibility Tools Consortium
Current version at the time of writing	Web Accessibility Toolbar 2012 (2012-09-13) **Note:** This is the current version for use with the Test Process. There may be more recent versions on the official WAT-C website (http://wat-c.org/), but *only the 2012 version linked to above should be used.*
Installation advice	• Admin rights are **required** to install this tool.
Settings that will be used in the course	The toolbar can be enabled/disabled using IE's settings. If in a full screen browser, press F11 to exit full screen and reveal WAT. Refresh the page to remove WAT markup (F5 key). Some functions do not work on pages within Frames. Open each page in its own window before running WAT tool functions. Confirm all WAT popup messages by reviewing WAT markup on page.

What it should look like on your screen	
	Selecting WAT > Images > Show Images will reveal the alternate text associated with images on the page.
How to verify the software is working	Open a government agency's home page. Under Images, select "Show Images". The page should reload and show the alt-text that is applied to each of the images. (Note: some images on the page may not have an indicator. This is not a failure of WAT. This will be explained in the course).

ARIA Markup Favelet

Official name	ARIA Markup
Also Known As	Jim Thatcher's Favelets
Download from	http://www.section508testing.org/tools
Purpose for 508 testing	Adds a JavaScript function that highlights all ARIA code on the page
Developed by / Owned by	Jim Thatcher
Current version at the time of writing	n/a
Installation advice	• Admin rights are **not required** to install this tool. • Install tool in your IE favorites list: Open the context menu (right-click) on link, and select Add to Favorites
Settings	None

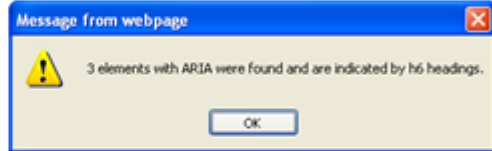| What it should look like on your screen	
	Benefit Amount Please enter the benefit amount in U.S. dollars. $ Found: aria-labelledby="lblAmount1 lblAmount1SupportText" Locate the amount found on your monthly statement and enter it into the field above. Please enter only whole dollar amounts. **Your Date of Birth** Please enter your date of birth in the field below Found: aria-labelledby="date1PatternLabel date1BottomLabel" aria-required="true" mm/dd/yyyy **Message from webpage** 3 elements with ARIA were found and are indicated by h6 headings. OK **Spouse Benefit Amount** Please enter the benefit amount your spouse receives. $ Found: aria-labelledby="lblAmount2" Enter the amount your spouse receives from your monthly statement.

Frames Favelet

Official name	Frames
Also Known As	Jim Thatcher's Favelets
Download from	http://www.section508testing.org/tools
Purpose for 508 testing	Adds a JavaScript function that marks up frames and iframes on the page with name/title; added for use in IE9
Developed by / Owned by	Jim Thatcher
Current version at the time of writing	n/a
	• Admin rights are **not required** to install this tool. • Install tool in your IE favorites list: Open the context menu (right-click) on link, and select Add to Favorites
Settings	None
What it should look like on your screen	

Named Anchors Bookmarklet

Official name	Named Anchors Bookmarklet
Also Known As	Named Anchors Favelet
Download from	http://www.section508testing.org/tools
Purpose for 508 testing	Adds a function that highlights a skip link's target (anchor) on the page
Developed by / Owned by	Jesse Ruderman
Current version at the time of writing	n/a
Installation advice	• Admin rights are **not required** to install this tool. • Install tool in your IE favorites list: Open the context menu (right-click) on link, and select Add to Favorites
Settings	None
What it should look like on your screen	