



Appraisal & Tax Solutions Client Workstation Requirements and Configuration Administration Guide

iasWorld 2020.1
April 2020

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Client System Requirements

The following are some of the client system requirements for iasWorld 2020.1.

Hardware and Platform

The following table displays both CPU and RAM requirements by operating system, as well as browser and screen resolution requirements.

| | | Operating System | | |
|-------------------|-------------|---|--|---|
| | | Windows 8 | Windows 10 | iPadOS/macOS (latest major release) |
| CPU | Minimum | 2.0 x the Microsoft recommended CPU requirements | 2.0 x the Microsoft recommended CPU requirements | As supported by latest major OS release |
| | Recommended | 3.0 x the Microsoft recommended CPU requirements | 3.0 x the Microsoft recommended CPU requirements | As supported by latest major OS release |
| RAM | Minimum | 2.0 x the Microsoft recommended RAM | 2.0 x the Microsoft recommended RAM | As supported by latest major OS release |
| | Recommended | 3.0 x the Microsoft recommended RAM | 3.0 x the Microsoft recommended RAM | As supported by latest major OS release |
| Examples | Minimum | 2 GHz x64 processor 2 GB RAM | 2 GHz x64 processor 2 GB RAM | |
| | Recommended | 3 GHz x64 processor 4 GB RAM | 3 GHz x64 processor 4 GB RAM | |
| Architecture | | The use of the 64-bit versions of the Windows operating system on 64bit supported workstations is highly recommended. The 32bit versions are supported, but we recommend using the higher recommendations for CPU and RAM. | | |
| Browser | | <p>iasWorld 2020.1 supports leading browsers such as Google Chrome, Microsoft Edge, Apple Safari, and Mozilla Firefox.</p> <p>Internet Explorer 11 is required for legacy modules including Field, Respond, Analyze, and Analyze Lite, or when Apex is being used as a sketch provider. A small set of administration pages also require Internet Explorer 11; iasWorld 2020.1 and subsequent versions will be updated to support these pages in leading browsers within six months of iasWorld 2020.1's initial release.</p> <p>Note: Microsoft Edge support is limited to versions 78 or above, which are based on Chromium. Earlier versions of Edge are not supported.</p> | | |
| Screen Resolution | | <p>iasWorld is designed for use on client workstations with a screen resolution of at least 1366x768, but a screen resolution of 1920x1080 or higher is preferable. Resolutions lower than 1366x768 are not supported.</p> <p>The use of multiple monitors is beneficial and can increase productivity.</p> | | |

Note: This documentation does not include requirements for other applications that may be integrated with the iasWorld system. For any third-party integration components outside of iasWorld, you must reference the specific requirements provided by that application.

Report File Viewer

iasWorld reports are generated in a PDF file format. To view these reports, a PDF viewer application is required. Tyler Technologies recommends the most recent version of Adobe Reader, but any compliant PDF viewer will suffice. Leading browsers are also capable of viewing PDF files within the browser, but Adobe Reader provides a richer user experience.

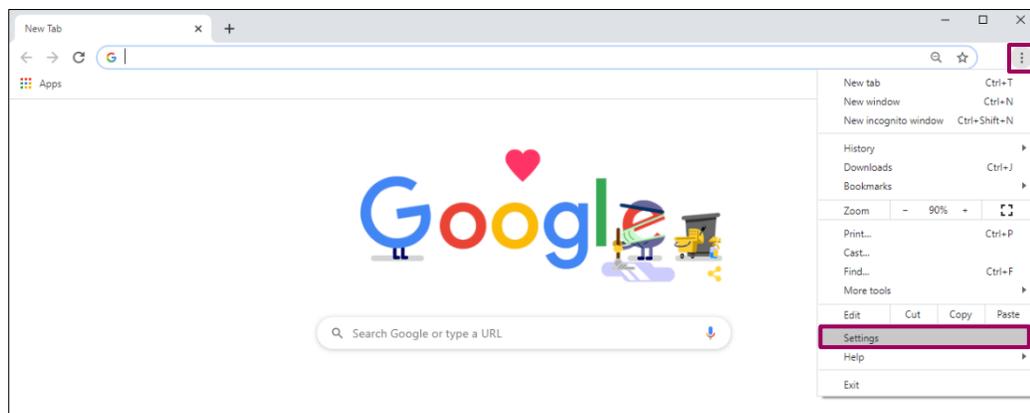
Client Workstation Configuration

The following sections provide guidance on browser configuration with a focus on items that can affect iasWorld's performance and functionality.

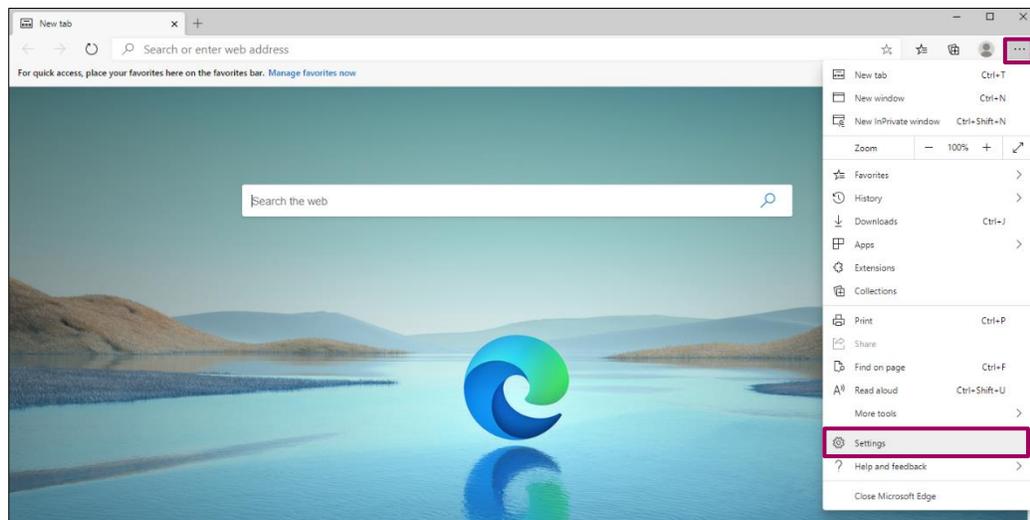
Adjusting Browser Settings

All web browsers have a screen or dialog that allows to adjust settings. The location of the settings screen or dialog varies by browser:

- In Google Chrome, settings are accessed via the menu button  and choosing **Settings**.

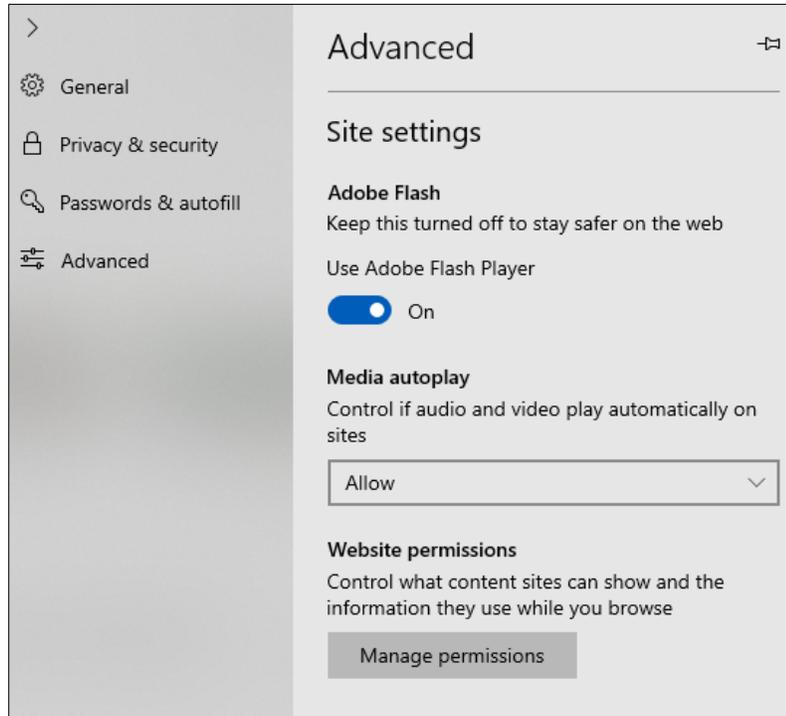


- In Microsoft Edge, settings are accessed via the menu button  and choosing **Settings**.

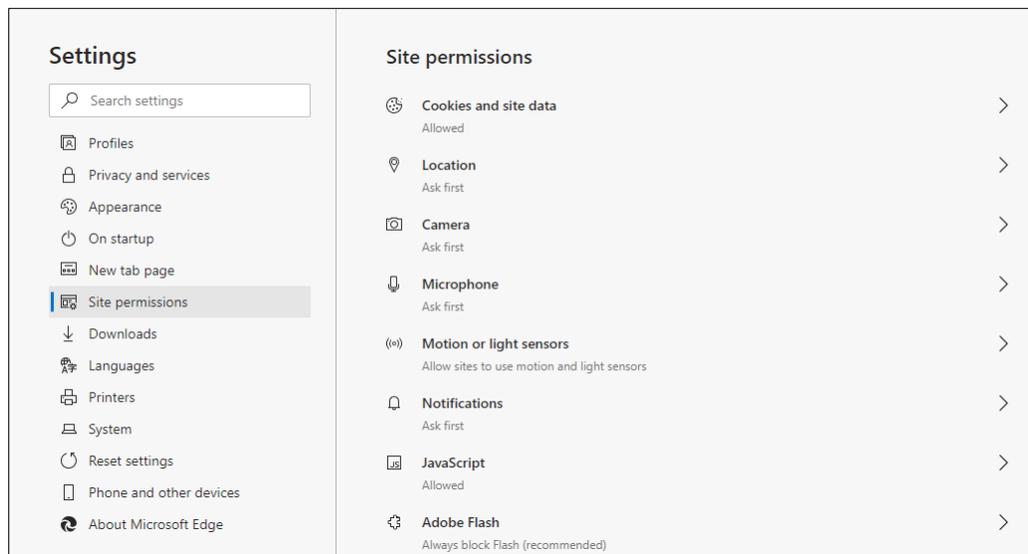


Note: If your settings screen displays as a toolbar on the right side of the browser, then you are using an outdated version of Microsoft Edge and an upgrade to the latest version is required.

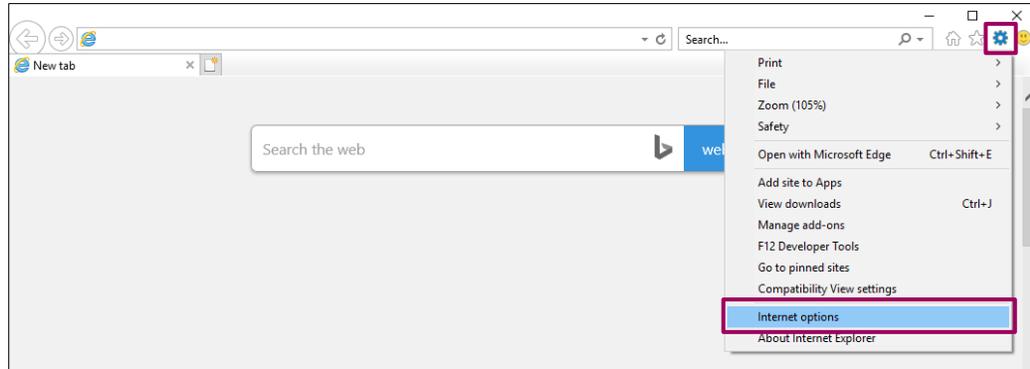
Previous Edge Settings Screen



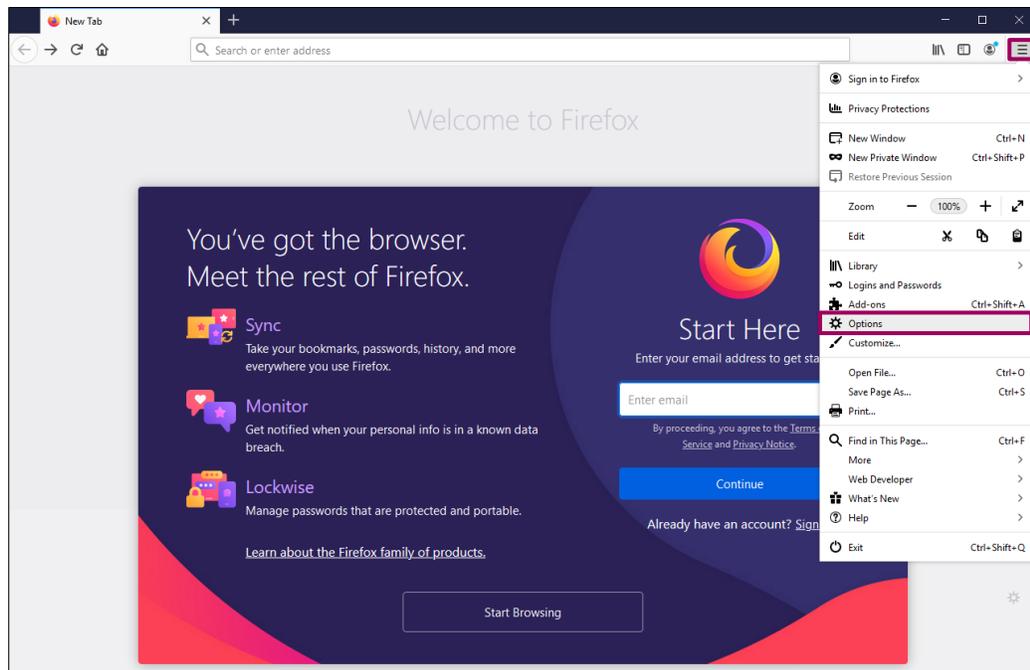
Current Edge Settings Screen



- In Microsoft Internet Explorer, settings are accessed by clicking the menu button  and choosing **Internet Options**.



- In Mozilla Firefox, settings are accessed via the menu button  and choosing **Options**.



- In Apple Safari on macOS, settings are accessed by pulling down the Safari menu item and choosing **Preferences**.
- In Apple Safari on iPadOS, settings are accessed by opening the **Settings** app and going to the **Safari** subsection.

The settings screens in leading browsers generally have search facilities that aid in finding specific settings. Simply enter the phrase you are searching for into the search box (such as "Cache") and the browser will show you any related settings.

Requiring HTTPS

Most leading browsers now flag sites not using HTTPS as “insecure” in the address bar. If iasWorld is not configured to use HTTPS, users should be told to expect the “insecure” notice.

- Internet Explorer does not flag sites that do not use HTTPS. However, HTTPS can be required if iasWorld is placed in the Internet Explorer Trusted Site zone, and then checking the **Require server verification (https:) for all sites in this zone** checkbox.

Enabling Downloads

Certain features in iasWorld allow the users to download files. For these features to work, file downloads need to be enabled within the browser.

- In leading browsers, downloads are always generally allowed. These browsers typically have options in their Settings that allow users to control the folder downloaded to, or to force the browser to ask for a location when downloading.
- In Safari, after a download is triggered, users will typically be asked if they want to allow the download to occur.
- In Internet Explorer, downloads can be enabled or disabled using the **Security** tab by clicking on **Custom Level**. This opens a **Security Settings** dialog, with “File download” as an option that can be enabled or disabled.

Browser Caching

Web browsers cache previously downloaded files for future use. The purpose of this file caching process is to increase site performance on subsequent visits to a site because some previously downloaded files may be able to be reused.

- Leading browsers manage the size of their cache automatically, adjusting it to fit available disk space. No manual settings are required, though users can clear their cache if they are trying to free up disk space.
- In Internet Explorer, cached files are known as **Temporary Internet Files**. Temporary Internet Files can be enabled in the **Internet Options** dialog, going to the **General** tab, and clicking the **Settings** button.

The frequency of checking for newer versions of stored files should be set to “Automatically” (the default value). The disk space allocated to temporary Internet files should be at least 50 MB (the default value is usually greater than 50 MB).

Cookies

Web applications utilize cookies – small pieces of text carried along with requests from a web browser to the server and the response from the server – to preserve information across all requests. Cookies are essential to iasWorld's operation, used for the following purposes:

- Session authorization (keeping users logged in)
- Security checks (anti-cross site request forgery protection and session fixation)
- Minor miscellaneous short-term data storage.

Web browsers generally contain options to disable cookies, and if they are disabled, iasWorld will not operate properly. While all browsers enable cookies by default, if a user has disabled cookies, they will need to be re-enabled.

There are two general types of cookies – first-party cookies, which are provided by the server hosting the web application, and third-party cookies, which are provided by other servers providing secondary features (frequently related to advertising and tracking). iasWorld does not use third party cookies, and so the features in leading browsers to disable third-party cookies will not affect iasWorld.

- In Chrome **Settings**, cookies can be enabled by enabling **Privacy and Security | Site Settings | Cookies and site data | Allow sites to save and read cookie data**.
- In Edge **Settings**, cookies can be enabled by enabling **Site Permissions | Cookies and Site Data | Allow sites to save and read cookie data**.
- In Firefox **Options**, cookies can be enabled by going to the **Privacy & Security** section and choosing **Standard** or **Strict** tracking protection. If using **Custom** protection, make sure the **Cookies** section is set to any option other than **All Cookies**.
- In Safari **Preferences**, cookies can be enabled by going to the **Privacy** tab and ensuring **Block all cookies** is not set.
- In Internet Explorer **Internet Options**, cookies can be enabled by going to the **Privacy** tab, clicking **Advanced**, and ensuring that **First Party Cookies** is set to **Accept** and **Allows allow session cookies** is checked. You may also need to click the **Sites** button on the **Privacy** tab and make sure that the iasWorld URL is either not listed, or is listed and set to **Allow**.

JavaScript

iasWorld depends heavily on JavaScript scripting to operate correctly. This is a programming language within the browser that has the ability to control the user interface and other features of the application. If JavaScript is disabled, iasWorld will not work correctly.

- In Chrome **Settings**, JavaScript can be enabled by setting **Privacy and Security | Site Settings | JavaScript** to **Allowed**.
- In Edge **Settings**, JavaScript can be enabled by setting **Site Permissions | JavaScript** to **Allowed**.
- In Firefox **Options**, JavaScript cannot be disabled.
- In Safari **Preferences**, JavaScript can be enabled by going to the **Security** tab and ensuring **Enable JavaScript** is set.
- In Internet Explorer **Internet Options**, JavaScript can be enabled by going to the **Security** tab, clicking **Custom Level**, and that the following options are set:

| Script Option | Setting |
|---|---------|
| Binary and Script Behaviors | Enable |
| Script ActiveX controls marked safe for scripting | Enable |
| Active Scripting | Enable |
| Allow status bar updates via script | Enable |
| Allow websites to prompt for information using scripted windows | Enable |
| Scripting of Java applets | Enable |
| Allow programmatic clipboard access | Enable |

Mixed Content

In iasWorld, maps and other content are typically hosted within iframes contained within iasWorld pages. These iframes are loaded via separate requests and can be accessed via different protocols than iasWorld itself is using.

When iasWorld is configured to be accessed via HTTPS and the hosted content is *not* configured to be accessed via HTTPS, the resulting “mixed content” configuration can pose a security concern and will therefore generally be blocked by default by the browser.

In normal usage, mixed content should not be allowed. Instead, the hosted map or other content should be updated so that it can also be accessed via HTTPS. However, it can occasionally be useful as a troubleshooting mechanism to enable mixed content support in a browser.

- In Chrome **Settings**, mixed content can be enabled by going to **Privacy and Security | Site Settings | Insecure Content** and adding the iasWorld URL as an exception.
- Microsoft Edge does not support mixed content.
- In Firefox, mixed content can be unblocked by clicking on the **lock**  button in the address bar and choosing **Disable Protection for now**.
- Safari does not support mixed content.
- In Internet Explorer **Internet Options**, mixed content can be allowed by going to the **Security** tab, clicking **Custom** Level, and then enabling **Display Mixed Content** in the list.

Pop-up Blockers

Web browsers have pop-up blockers to prevent unwanted and annoying pop-up windows from being opened. Browsers use a set of rules to determine when a window being opened is treated as a pop-up and when it isn't. In general, windows that are opened as a direct result of a user clicking on a link will not be treated as pop-ups, but exceptions can occur.

iasWorld can open modules in secondary windows, and those actions might be treated by a browser as a pop up. The result would be that the iasWorld module would not open. To avoid this, we recommend disabling pop up blocking in the browser, at least for iasWorld.

- In Chrome **Settings**, pop up blocking can be disabled can be going to **Privacy and Security | Site Settings | Pop-ups and redirects** and adding the iasWorld URL as an allowed site.
- In Edge **Settings**, pop up blocking can be disabled can be going **Site Permissions | Pop-ups and redirects** and adding the iasWorld URL as an allowed site.
- In Firefox Options, pop up blocking can be disabled by going to **Privacy & Security | Permissions** and either disabling **Block pop-up windows** or adding iasWorld as an allowed site.
- In Safari **Preferences**, pop up blocking can be disabled by going to iasWorld before opening **Preferences**, then going to the **Websites** tab and choosing **Popup Windows**. iasWorld will appear in the list, and the setting for iasWorld can be changed to **Allow**.
- In Internet Explorer **Internet Options**, pop up blocking can be disabled by going to the **Privacy** tab and unchecking **Pop-up Blocker**.

User Interface Settings

Web browsers generally offer settings that allow you to change the appearance of pages within the browser. These settings often include changing font sizes, changing default fonts used in cases where no other font is specified, and overall page zoom.

These settings can cause significant changes to the appearance of the iasWorld user interface, and as result, changes to some settings are not supported by iasWorld.

Default font settings will not affect iasWorld, as iasWorld always specifies specific fonts to use.

Browser Text Size

Browsers allow users to set a default relative font size for web pages. However, this is a historically older feature that provides an incomplete solution to readability. Using this functionality can affect page layout because other page elements such as images are not affected by the text size change. Instead, customers wanting to improve readability for accessibility reasons should use the browser's page zoom feature.

- In Chrome **Settings**, text size can be reset by setting **Appearance | Font size** to **Medium**.
- In Edge **Settings**, text size can be reset by setting **Appearance | Font size** to **Medium**.
- Firefox does not provide a relative text size option. However, **Fonts and Colors** has an **Advanced** button, and in the dialog that shows when you click **Advanced**, **Allow pages to choose their own fonts, instead of your selections** above should always be selected.
- Safari does not provide a relative text size option.
- In Internet Explorer, the text size can be reset to by choosing the **View** menu (you may need to press the Alt key to make it visible), choosing **Text Size**, and **Medium**.

Browser Text Encoding

Some browsers allow users to set a text encoding for web pages. This used to correctly render older localized pages that do not provide details on the text encoding they use. The encoding should not be changed for iasWorld.

- In Safari on macOS, the encoding can be reset by choosing the **View** menu, choosing **Text Encoding**, and **Unicode (UTF-8)**.

- In Internet Explorer, the encoding can be reset to by choosing the **View** menu (you may need to press the Alt key to make it visible), choosing **Encoding**, and **UTF-8**.

Color and Font Settings

Some browsers support the ability to ignore or override font or color choices supplied by web page for accessibility reasons. Typically, this allows users to supply a higher-contrast color scheme that is easier to read.

iasWorld 2020.1 utilizes a high contrast color scheme, and as such, overriding the standard page styles will reduce readability, not enhance it. For this reason, users should not override font or color settings.

- In Chrome, colors can only be overridden via the addition of a color-adjusting accessibility extension. To ensure that colors are not overridden, go to the menu and choose **Extensions**, and review the installed extensions to ensure that none are affecting colors. You may wish to temporarily disable all extensions as a test.
- In Edge, colors can only be overridden via the addition of a color-adjusting accessibility extension. To ensure that colors are not overridden, go to the menu and choose **Extensions**, and review the installed extensions to ensure that none are affecting colors. You may wish to temporarily disable all extensions as a test.
- In Firefox **Options**, styles can be reset by going to **Fonts and Colors**, clicking **Colors**, and ensuring that **Override the colors specified by the page with our selections above** is set to **Never**.
- In Safari Preferences, go to the **Advanced** tab and ensure that **Style Sheet** is set to **None Selected**.
- In Internet Explorer **Internet Options**, styles can be reset by clicking the **General** tab and then clicking the **Accessibility** button. In the dialog that results, ensure all checkboxes are clear.

Third Party Browser Add-ons and Extensions

Browsers support the addition of additional features via add-ons and extensions. Add-ons are a historic compiled-code approach to adding functionality to browsers, while extensions are a lighter-weight JavaScript-based approach.

For Internet Explorer, iasWorld does not require and does not support third-party browser add-ons being installed. Existing add-ons should be removed to ensure that they do not interfere with iasWorld's operation.

For leading browsers, iasWorld does not require any extensions be added, and we do not recommend any specific extensions be installed. Extensions should only be installed if they are approved by the organization's IT department.

Some extensions or add-ons modify the displayed content of pages, and this can create functional problems in iasWorld. Tyler is not responsible for any functional problems caused by add-ons or extensions.

Should functional problems be seen in iasWorld, disabling any extensions or add-ons should be considered as an essential early step in troubleshooting.

- In Google Chrome, extensions are managed via the menu button  and choosing **Settings**.
- In Microsoft Edge, extensions are managed via the menu button  and choosing **Extensions**.
- In Microsoft Internet Explorer, add-ons are managed by clicking the menu button  and choosing **Internet Options**. Within the **Options** dialog, click on the **Programs** tab and then **Manage Add-ons**.
- In Mozilla Firefox, extensions are managed via the menu button  and choosing Add-ons.
- In Apple Safari on macOS, extensions are managed by going to **Preferences** and clicking on the **Extensions** tab. Note that extensions are added by installing a supporting application via the Mac App Store.
- In Apple Safari on iPadOS, extensions are disabled by clicking on the Share button  within Safari and tapping either **More** or **Edit Actions**, depending on which section of the Share sheet the extension appears.

AutoComplete

Internet Explorer supports the ability for the browser to retain information in its cache files for values that have been typed into fields on a form. Subsequent navigation to a field on a form with the same field name provides you with the option of selecting a previously typed value for the field from a list. This functionality is known as AutoComplete.

AutoComplete should be disabled for iasWorld use in order to prevent fields from being filled with incorrect data.

Other browsers have fill features that are specific to passwords and addresses and should be less likely to interfere with data entry. Should a problem occur, they can also be disabled.

- In Chrome **Settings**, form filling can be disabled can be disabling **Autofill | Addresses | Save and fill addresses**.
- In Edge **Settings**, form filling can be disabled can be disabling Autofill/Addresses and more/save and fill addresses.
- In Firefox **Options**, form filling can be disabled by going to **Privacy & Security | Forms and Autofill** and disabling **Autofill addresses**.
- In Safari **Preferences**, form filling can be disabled by going to the **Autofill** tab and disabling **Other forms**.

Additional Settings

Browsers offer additional settings that can affect the functioning of iasWorld.

Google Chrome

The following settings should be set to the values shown. To access them, search for them via the **Search Settings** box.

| Item | Setting |
|--|---------|
| Use hardware acceleration when available | Checked |

Microsoft Edge

The following settings should be set to the values shown. To access them, search for them via the **Search Settings** box.

| Item | Setting |
|--|---------|
| Use hardware acceleration when available | Checked |

Mozilla Firefox

The following settings should be set to the values shown. To access them, search for them via the **Find in Options** box.

| Item | Setting |
|---|------------|
| Applications (controls whether to open file types in applications other than the application registered with Windows for the file type) | As desired |
| Use recommended performance settings | Checked |

Internet Explorer

The following **Advanced Settings** must be set to the values shown. To access them, from Internet Explorer **Internet Options**, select the **Advanced** tab.

Internet Explorer offers a wide array of configuration settings that it designates **Advanced Settings**. For iasWorld to function properly on a client workstation, the client workstation must have the following default **Advanced Settings** enabled.

| Item | Setting |
|---|---------|
| Enable visual styles on buttons and controls in web pages | Checked |
| Use HTTP 1.1 | Checked |

| Item | Setting |
|-------------------------------|---------|
| Show Pictures | Checked |
| Enable native XMLHTTP Support | Checked |

Additional Considerations

The following are some additional items to consider when configuring your workstation.

Browser Zoom Levels

Browsers provide the ability for you to specify a “zoom level” for viewing web pages. Zoom Levels increase the scale of web pages displayed in the browser by magnifying all elements on a page. In doing so, they preserve the page layout, but as the magnification level increases, the amount of information displayed necessarily decreases until the page no longer is rendered in a useful way.

We recommend zoom levels be kept at 100% unless they are being increased for accessibility reasons.

Tabbed Browsing

Most browsers support opening of new pages in either tabs or new windows, based on user preference. There is no functional difference between these two approaches, and iasWorld supports either choice.



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