

R12: Recommended Browsers for Oracle E-Business Suite (Doc ID 389422.1)

Alert: Microsoft Edge Users

From January 15th 2020 the new Microsoft Edge (Chromium-Based) browser (version 79.x) is available for download from Microsoft.

This browser release is currently **not certified** for Oracle E-Business Suite users.

The certification is in progress however testing has identified some issues that are currently being investigated.

Installing the Edge (Chromium-Based) browser will replace the current Edge Legacy browser (version 44.x) on your desktop. It is therefore strongly recommended Oracle E-Business Suite users running Edge do not install this release until the certification is completed.

Oracle's Revenue Recognition rules prohibit us from discussing certification and release dates.

Microsoft are planning to roll out Microsoft Edge (Chromium-Based) browser through Automatic Updates for Windows 10 in the coming months. A [Blocker Toolkit to disable automatic delivery of Microsoft Edge](#) for users that may be affected by this has been made available, further details are available on that page.

Note: Applying the blocker **will not** prevent users from manually downloading and installing this browser themselves.

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The most current version of this document can be obtained in [Document 389422.1](#)

There is a [change log](#) at the end of this document.

Section 1: Overview

This document outlines the requirements for browsers that are certified for use with Oracle E-Business Suite R12.

Browsers may require specific patches for compatibility with Oracle E-Business Suite. These patches are backwards compatible with earlier browser releases. For example, after installing the required Internet Explorer 11 patches you will still be able to access your environment using earlier Internet Explorer versions as well as alternative browsers.

For information on internationalization browser issues see the 'Browser Notes' section of [Document 393320.1](#) titled, 'Internationalization Update Notes for Release 12'.

3rd Party Software Support Lifecycle

Oracle's certification of the various third party client operating system, service pack levels and browsers aligns with the respective vendor's support life cycle.

It is recommended that users running software versions that are no longer supported by the vendor upgrade to the current release. Oracle will continue to offer support for earlier versions with Oracle E-Business Suite R12 on a 'Best Effort' basis only. Consequently, where issues are due to problems with the old release, we may, where necessary, require customers to upgrade to resolve the issue.

Internationalization

For information on internationalization browser issues see the 'Browser Notes' section of [Document 393320.1](#) titled, 'Internationalization Update Notes for Release 12'.

Section 2: Internet Explorer (IE) for Windows Users

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Internet Explorer: Certification Matrices

Oracle E-Business Suite R12 has two interfaces: a web-based (OA Framework/HTML) model for modules like iProcurement and iStore, and Oracle Forms/Java based model for our professional services modules like Oracle Financials.

- Internet Explorer is certified for E-Business Suite customers running web-based (HTML / OA Framework) screen
- Internet Explorer is certified for running Java content using Java Web Start (JWS) - [Document 218898.1](#).
- Internet Explorer is certified for running Java content using the JRE Plug-in - [Document 393931.1](#).

- [Certification Matrix for Internet Explorer \(64-bit\) using Java Plug-in \(64-bit\)](#)
- [Certification Matrix for Internet Explorer \(32-bit\) using Java Plug-in \(32-bit\)](#)
- [Certification Matrix for Internet Explorer using Java Web Start \(JWS\)](#)

Certification Matrix for Internet Explorer (64-bit) using Java Plug-in (64-bit)

The table below outlines the certified combinations of Windows desktop operating systems with Internet Explorer (64-bit) desktop browser and minimum JRE 8, 7 & 6 Plug-in (64-bit) releases where applicable.

Browser Version	Windows 10 ¹ (64-bit)	Windows 8.1 (64-bit)	Windows 7 ² (64-bit)
IE 11 (64-bit)	JRE 1.8.0_51 (64-bit) and higher JRE 1.7.0_85 (64-bit) and higher	JRE 1.8.0_25 (64-bit) and higher JRE 1.7.0_10 (64-bit) and higher JRE 1.6.0_37 (64-bit) and higher	JRE 1.8.0_25 (64-bit) and higher JRE 1.7.0_10 (64-bit) and higher JRE 1.6.0_32 (64-bit) and higher

Certification Matrix for Internet Explorer (32-bit) using Java Plug-in (32-bit)

The table below outlines the certified combinations of Windows desktop operating systems with Internet Explorer (32-bit) desktop browser and minimum JRE 8, 7 & 6 Plug-in (32-bit) releases where applicable.

Browser Version	Windows 10 ¹ (32-bit & 64-bit)	Windows 8.1 (32-bit & 64-bit)	Windows 7 ² (32-bit & 64-bit)
IE 11	JRE 1.8.0_51 and higher JRE 1.7.0_85 and higher	JRE 1.8.0_25 and higher JRE 1.7.0_10 and higher JRE 1.6.0_37 and higher	JRE 1.8.0_25 and higher JRE 1.7.0_10 and higher JRE 1.6.0_24 and higher

Certification Matrix for Internet Explorer using Java Web Start (JWS)

The table below outlines the certified combinations of Windows desktop client operating system, Internet Explorer 11 desktop browser (64-bit and 32-bit), and JRE 8 (64-bit and 32-bit) version required to run with Java Web Start. As Java Web Start runs outside the browser using a 64-bit or 32-bit browser will have no bearing on running a 64-bit or 32-bit Java version. Java content will try to launch using the highest version of Java it can access on the desktop.

Browser Version	Windows 10 ¹ (64-bit & 32-bit)	Windows 8.1 (64-bit and 32-bit)	Windows 7 ² (64-bit & 32-bit)

<p>IE 11 (64-bit & 32-bit)</p>	<p>JRE 1.8.0_151 and higher</p> <p>JRE 8 Update 144 b01 JRE 8 Update 141 b15 JRE 8 Update 131 b31 JRE 8 Update 121 b33</p>	<p>JRE 1.8.0_151 and higher</p> <p>JRE 8 Update 144 b01 JRE 8 Update 141 b15 JRE 8 Update 131 b31 JRE 8 Update 121 b33</p>	<p>JRE 1.8.0_151 and higher</p> <p>JRE 8 Update 144 b01 JRE 8 Update 141 b15 JRE 8 Update 131 b31 JRE 8 Update 121 b33</p>
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Certification Notes

Microsoft Windows 10 Servicing Options

- Microsoft provides updates for Windows 10 via its servicing options:
 - **LTSC (Long Term Servicing Channel)** - Previously known as LTSB (Long Term Servicing Branch)
 - **Semi-Annual Channel** - Previously known as CB (Current Branch)
 - **Semi-Annual Channel** - Previously known as CBB (Current Branch for Business)
- For further information see, [Overview of Windows as a service](#) and [Windows 10 release information](#)

Oracle E-Business Suite is certified with all these Windows 10 service options.

Windows 7

- Microsoft ended support of Windows 7 on the 14th January 2020. If you are running this desktop operating system see [3rd Party Software Support Lifecycle](#)

Enterprise Mode and Compatibility View (Required)

Oracle E-Business Suite 12 is **not** certified with IE11 using either 'Enterprise Mode' or 'Compatibility View'.

Enterprise Mode: Internet Explorer 11 includes an 'Enterprise mode' which can be used to emulate Internet Explorer 8 behavior and provide compatibility for earlier browser standards. This should **not** be used with Oracle E-Business Suite as it will have no effect on certain issues. If you need to use 'Enterprise Mode' for other applications then EBS should be added as an exception to bypass it.

Compatibility View: Due to [Display Issues in FWK \(IE9 and 10\)](#), it was previously recommended to run E-Business Suite using the browsers 'Compatibility View'. These display issues have been fixed for IE11 through the patches listed in the [IE 11 Prerequisite Patch Requirements](#) below. Once you have applied the prerequisite patches, you should run E-Business Suite pages without enabling the 'Compatibility View' feature in the browser. You can check this by navigating to Internet Explorer 11 -> Tools -> Compatibility View settings, and ensuring that:

- Your instance domain is NOT part of the Compatibility View settings, and
- The 'Display intranet sites in Compatibility View' is unchecked.
 - Having this setting checked can cause display issues as outlined under [EBS 12.2.5 and Higher: Page Button Misalignment](#).

Users must follow [IE 11 Prerequisite Patch Requirements \(Required\)](#) to fix compatibility issues with Oracle E-Business Suite 12.

Network Desktop Policy

Also ensure Enterprise Mode or Compatibility View is not set as part of the group policy on your network. This will also cause unexpected behaviors including, spinning and a dialog box titled, 'Message from webpage' with message 'Work in progress' during navigation in html. See [Document 2503760.1](#) for further information.

Internet Explorer: Prerequisite Patch Requirements

IE 11 Prerequisite Patch Requirements (Required)

To use IE11 with Oracle E-Business Suite 12, apply the following **General** patches (or later) including any further prerequisite patch requirements as stated in the patch readme files as applicable to your EBS release. Other product patches listed below will also be required if you use those particular products.

Product Requirements	EBS 12.2	EBS 12.1

General	Patch 20007138:R12.TXK.C Note 1 Patch 20518047:R12.FWK.C Note 2 Patch 19863340:R12.FND.C	Patch 9239090:12.1.3 Release Update Pack Patch 17932167:R12.TXK.B Patch 18936791:R12.FWK.B.delta.4 Note 5 Patch 21565052:R12.FWK.B Note 4
CRM Note 7	Patch 19195514:R12.JTT.C Patch 22766443:R12.JTT.C Note 6	Patch 20986782:R12.CC PF.B Note 3 Patch 19486870:R12.JTT.B
Product Information Mgt (PIM)	Not Applicable	Patch 21482112:R12.FWK.B
WebADI (BNE)	Patch 19907901:R12.BNE.C	Patch 19273341:R12.BNE.B.delta.4
Report Manager (FRM)	Patch 19900999:R12.FRM.C	Patch 19559960:R12.FRM.B.Delta.4

Note 1 [Patch 20007138:R12.TXK.C](#) must be applied first, **before** applying [Patch 20518047:R12.FWK.C](#).

Note 2 [Patch 20518047:R12.FWK.C](#) has superseded the previously recommended [Patch 19855051:R12.FWK.C](#).

Forces IE11 to render web application pages in **IE10 Standards Mode**.

Note 3 [Patch 20986782:R12.CC PF.B](#)

This supercedes the previously recommended [Patch 19659562:R12.CC PF.B](#). On environments where [Patch 17931904:R12.FND.B](#) had not been installed [Patch 19659562:R12.CC PF.B](#) would fail to compile certain jsp files e.g. jffmcr1.jsp. The FND patch has now been included in [Patch 20986782:R12.CC PF.B](#) to prevent this issue.

Note: Also see [CRM Prerequisite Patch 20986782:R12.CC PF.B Known Issues](#).

Note 4 [Patch 21565052:R12.FWK.B](#): Post install recommended patch for R12.FWK.B.delta.4 contains further fixes for IE11. It is also recommended to apply this latest FWK patch release.

Note 5 [Patch 18936791:R12.FWK.B.delta.4](#): Forces IE11 to render web application pages in **IE5 Quirks Mode**. This is to ensure that customers upgrading to IE10 and above do not need to ask all their application end users to set the compatibility view setting on their individual desktop browsers.

Note 6 [Patch 22766443](#).R12.JTT.C fixes formatting issues when rendering Email Center pages. This patch is currently only available for EBS 12.2.4, a patch for EBS 12.2.5 is in progress.

Note 7 Certain JTT pages may still have display issues such as overlapping buttons even after the application of the JTT patches. See [JTT: Form Display Issues in IE11](#) for further details.

Internet Explorer: Recommended Browser Settings

The use of certain functions within Oracle E-Business Suite will require the default browser settings to be altered as outlined below. With the exception of these changes, IE is tested with the default parameter settings.

Security Zones

Microsoft Internet Explorer offers four different security zones to run your application through. Which zone is used is dependant how you are accessing your site (Internet or Local Intranet) and set up within the zones themselves (Trusted sites & Restricted sites).

It is advisable to have the security setting at **Medium** for run-time use.

The Security Internet Options on Microsoft Internet Explorer can be accessed by going to:

Tools -> Internet Options -> Security tab from the Internet Explorer Menu Bar.

Each zone carries its own default security level that may need to be adjusted when accessing Oracle E-Business Suite through it. The defaults are as follows:

Zone	Usage

Internet	Web sites not placed in other zones
Local Intranet	Web sites on your organization's intranet
Trusted Sites	Web sites you trust not to damage your computer
Restricted Sites	Web sites that could potentially damage your computer

NOTE: It is recommended that Oracle E-Business Suite is run through the 'Trusted Sites' zone, with a 'Medium' Security Setting. See [Java\(TM\) was blocked because it is out of date and needs to be updated.](#)

Trusted Sites Zone

Certain products and functions within Oracle E-Business Suite require the manipulation of the default browser security zone settings to function correctly. Altering security settings in the Internet Zone is not recommended because you are accessing more widespread web data of which you may not know the source. The Trusted Sites zone allows you to precisely control which specific sites or domains will be accessed through this zone. This allows you, if required, to manipulate the settings with minimal security risk.

Setting up Oracle E-Business Suite to run through the 'Trusted Sites' zone with a 'Medium' Security Setting.

Step 1: Select Tools -> Internet Options -> Security tab -> Trusted Sites icon -> Sites (button) from the Internet Explorer Menu Bar.
Step 2: If required, set the Security Level for this Zone to Medium.
Step 3: In the Add this Web site to the zone: field, enter the 'hostname and domain' of your Oracle E-Business Suite environment, e.g. https://<hostname>.<domain name>, then click the Add button. Alternatively you can simply add the domain name preceded by *, so that all sites under that domain go through this zone, e.g. *.<domain name>

Note: If you are entering an http://... or *.domain address, you must first uncheck the Require server verification (https:) for all sites in this zone check box. You may re-check this setting again after entering your values.

Pop-up Blocker

Certain content within Oracle E-Business Suite requires pop-ups to function in the browser. If you are blocking pop-ups through your browser settings, add the domain name from your URL (e.g. *.*example.com*) as an allowed site using one of the following paths:

```
Tools -> Pop-up Blocker -> Pop-up Blocker Settings -> Allowed Sites
Tools -> Internet Options -> Privacy -> Pop-up Blocker: Settings -> Allowed sites
```

Internet Explorer Browser Settings for User Download of oaj2se.exe (Java Plugin Only)

Oracle recommends that customers running Oracle E-Business Suite through Internet Explorer (IE) should use a 'Medium' security setting through the 'Trusted Sites' zone in the browser at runtime. This setting does not automatically download the oaj2se.exe file from the middle tier if the user does not already have the appropriate version installed on their desktop.

The JRE plug-in will download and install from the webserver on a medium security setting. After clicking on a 'forms link', a message similar to the following will appear at the top of the browser window:

```
'The website wants to install the following add-on: 'Java SE Runtime Environment 8 Update 101' from 'Oracle America, Inc.'.
```

To install the plug-in:-

1. Click the **Install Button**.
2. Do you want to allow the following program to make changes to your computer
3. Once the browser has stopped processing, click on the 'forms link' again, and the oaj2se.exe file should start to download.

4. Once the download has completed, a security warning pop-up window will ask, 'Do you want to allow the following program to make changes to your computer?'. Click the **Yes** button.
5. When the Java Setup window opens click the 'Install' button and follow the on screen instructions.

Alternatively for ease of access when downloading this file temporarily alter the security settings within the browser using one of the two methods below:

Method A: Change Individual Parameter Settings

1. Select 'Tools' -> 'Internet Options' -> 'Security' (Tab) from the browser menu.
2. Select 'Trusted Sites' -> 'Custom Level' (button)
3. Under 'Settings' -> 'ActiveX controls and Plug-ins'
4. Change 'Automatic prompting for ActiveX controls' to 'Enable'
5. Change 'Download unsigned ActiveX controls' to 'Prompt'
6. Click the 'OK' button and accept the changes and click the 'OK' buttons to close the window
7. Close the browser and start a new browser session for the settings to take effect.
8. After downloading the oaj2se.exe file onto your desktop, you may reset the default values for runtime use, if required:
'Automatic prompting for ActiveX controls' to 'Disable' and
'Download unsigned ActiveX controls' to 'Disable'.

Method B: Temporarily Change Security Setting to Medium-low

1. Select 'Tools' -> 'Internet Options' -> 'Security' (Tab) from the browser menu.
2. Select 'Trusted Sites' -> 'Custom Level' (button)
3. From the 'Reset custom settings' drop down select 'Medium-low'
4. Click the 'Reset...' button and accept the changes.
5. Press the 'okay' buttons to close the window.
6. Close the browser and start a new browser session for the settings to take effect.
7. After launching Oracle E-Business Suite and downloading the oaj2se.exe file onto your desktop, reset the security setting back to 'Medium'

Page Refresh

When using Oracle Self-Service products it is important to ensure that the most current data is being viewed. You may check if the page has been updated since your last visit by manually refreshing the page, however it is desirable for this to be done automatically through IE by setting the following parameter from the browser menu as follows:

- Select Tools -> Internet Options -> General tab -> Browsing History -> Settings (button).
- Select Every time I visit the webpage.

With this option set Internet Explorer will check if the page has changed since it was last viewed.

Shared Desktop Security

If multiple users share the same desktop, they may be able to view a previous users browser content by pressing the 'Back' button on the browser. To avoid this issue set the `Force Page Refresh` profile option to `Yes` at `Site level` in your Oracle E-Business Suite 12 instance.

For security reasons, if a PC is shared by multiple users it is also advisable **not** to save encrypted pages onto the drive by navigating to

Tools -> Internet Options -> Advanced (tab) -> Security and ticking `Do not save encrypted pages to Disk`.

Exception: SSL users who export Discoverer Workbooks to excel must leave the `Do not save encrypted pages to Disk` parameter unchecked.

AutoComplete in Internet Explorer

IE can automatically show previous values entered in the same form field. For privacy and security reasons this feature should be *disabled* as follows:

Go to Tools -> Internet Options -> Content -> AutoComplete -> Settings (button)
 Uncheck the Forms and User names and passwords on form check boxes.

HTTP 1.1/Keep Alive Settings

Users should have the HTTP 1.1/Keep Alive option *enabled*.

To set this option, navigate to the following parameters from the browser menu and ensure they are checked:

- Tools -> Internet Options -> Advanced tab -> HTTP 1.1 Settings:
- Use HTTP 1.1.
- Use HTTP 1.1 through proxy connections.

Internet Explorer: Importing an SSL/TLS Certificate (at runtime)

If you are using an SSL/TLS certificate that is not from one of the standard recognized Certificate Authorities (CA), for example your own in-house CA, add the root certificate as a trusted authority within IE.

Connecting to a Transport Layer Security (TLS) or Secure Socket Layer (SSL) enabled environment requires the certificate to be 'Trusted'. If the certificate is not from a trusted authority or has not previously been trusted on the client (root certificate installed into the browser), it must be verified at runtime. When accessing such an environment it will return the following warning message: 'There is a problem with this website's security certificate'. Using the automatic default install button may cause the certificate to be added to the browser's 'Intermediate Certification Authorities' folder and not the required 'Trusted Root Certification Authorities' folder. Therefore the security message will still display.

If the certificate has wrongly been installed into the 'Intermediate Certification Authorities' remove it through the browser and re-install into the 'Trusted Root Certification Authorities' folder.

Installing an SSL certificate into the Browsers Trusted Certificates folder requires the browser's security option **'Enable Protected Mode'** to be **disabled** (not checked), which is the default setting in the 'Trusted Sites' zone. (If required, 'Enable Protected Mode' may again be enabled (checked) after the certificate has been installed for runtime use). Alternatively if you launch the browser with elevated privileges (Right click the IE icon and select 'Run as administrator') The install button will become available allowing you to install the certificate.

To trust the certificate authority and prevent the error page appearing on future logins. The root certificate can be installed at runtime as follows (Assuming you are using the browsers 'Trusted Sites' zone):

1. Enter the EBS URL in the browser
2. The warning message, 'There is a problem with this website's security certificate' will display
3. Click on, 'Continue to this website (not recommended)'
4. The Address bar will display with a red background, click on the 'Certificate error' message
5. An 'Untrusted Certificate' window pops, click 'View Certificates'
6. Click the 'Certification Path' (Tab)
7. Highlight the Root certificate (will have a white cross in a red background next to it) and press 'View Certificate' button
8. Click 'Install Certificate' (button) -> 'Next' (button)
9. Select 'Place all the certificates in the following store'
10. Click 'Browse' (button) and select 'Trusted Root Certification Authorities' folder and click 'OK' (button)
11. Click 'Next' (button) followed by 'Finish' (button)
12. When the 'Security Warning' window pops asking if you wish to install the certificate, click 'Yes' (button)
13. The 'Certificate Import Wizard' window should display stating 'The import was successful', click 'OK' (button)
14. Also close the two 'Certificate' windows by clicking the 'OK' (buttons)
15. Close all your IE browser sessions

If the install button is not active when trying to install the certificate, it may have been installed previously using the automatic facility (Into the 'Intermediate Certification Authorities' zone). To remove the certificate:

- Open the browser and go to Tools -> Internet Options -> Content -> Certificates -> Intermediate Certificate Authorities
- Highlight the appropriate certificate for the instance you are trying to access, press the 'Remove' button then close down the browser
- Open a new browser session and follow the steps above to install the certificate into the 'Trusted Certificates' folder

SSL/TLS Environment Issues

Internet Explorer may display one of the following messages through a modal window when running an Oracle E-Business Suite SSL/TLS enabled environment:

Do you want to view only the webpage content that was delivered securely?

or

This page contains both secure and nonsecure items.
Do you wish to display the nonsecure items?

To stop this message appearing, using the 'Trusted Sites' zone as an example:

1. Select 'Tools' -> 'Internet Options' -> 'Security' (tab) -> 'Trusted Sites' -> 'Custom Level' (button) -> 'Miscellaneous' section from the browser menu.
2. Set 'Display mixed content' to 'Enable'.
3. Save the setting and close the browser window.

Internet Explorer: Running IE 11 in 64-bit Mode

Internet Explorer runs in a multi-process architecture whereby there is a Frame (Manager) process and one or more Tab (Content) processes. There is no longer a separate 32-bit and 64-bit install of the browser when running a 64-bit version of Windows. In this instance the Frame (Manager) process always runs as 64-bit while the Tab (Content) process can run as either 32-bit or 64-bit.

Internet Explorer Settings

To run Oracle E-Business Suite through a 64-bit browser using a 64-bit JRE release you will need to set the following values in Internet Explorer:

Windows 7 (64-bit)

Select (Check) the following values:

Tools -> Internet Options -> Security -> <zone> (e.g. Trusted Sites) -> Enable Protected Mode
Tools -> Internet Options -> Advanced -> Enable Enhanced Protection Mode

Windows 10 (64-bit) and Windows 8.1 (64-bit)

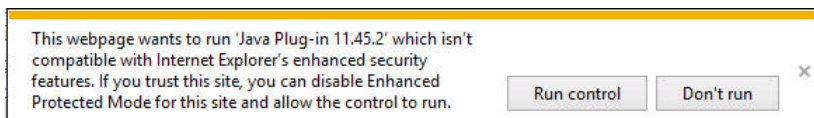
Select (Check) the following values:

Tools -> Internet Options -> Security -> <zone> (e.g. Trusted Sites) -> Enable Protected Mode
Tools -> Internet Options -> Advanced -> Enable 64-bit processes for Enhanced Protection Mode

Do not select (Uncheck) the following value:

Tools -> Internet Options -> Advanced -> Enable Enhanced Protection Mode

If you have "Enable Enhanced Protection Mode" selected (checked) when launching JRE you will see the following warning in the browser window.



Click the Don't Run button and uncheck the value in the browser as outlined above.

(Clicking the Run Control button will disable Enhanced Protected Mode which will not allow the 64-bit JRE release to run. It will instead try to launch using a 32-bit version if available.)

General Checks and Settings

User Access Control Setting (UAC)

Ensure the 'User Account Control Setting' (UAC) is **not** set to "Never Notify". This can be found under:

Control Panel -> Action Center -> Change User Account Control Settings

The default value for this setting is "Notify me only when programs try to make changes to my computer". Therefore, unless this was changed by the user it is unlikely it would need altering.

32-bit Add-ons

If the browser has 32-bit add-ons or toolbars installed then the tab process will continue to open in 32-bit mode and prevent you running a 64-bit application. These can be checked through the IE Menu at the following locations:

Tools -> Manage add-ons -> Toolbars and Extensions -> Show: Currently loaded add-ons
Tools -> Manage add-ons -> Toolbars and Extensions -> Show: Downloaded Controls

Any add-ons listed with a value of "32-bit" in the Architecture column must be disabled or uninstalled. Add-ons with a value of "32-bit and 64-bit" are okay to use in a 64-bit browser tab and can remain enabled.

After removing or disabling any old add-ons, clear the browser cache and start a new browser session.

Check the Browser Set Up

To verify your browser is using 64-bit tabs, run through the steps in this section.

1. Close any open IE browser sessions
2. Open a new IE session
3. Launch your EBS environments logon page
4. Check the bitness of your IE tabs process as appropriate to your Windows version as explained below:

Windows 7 Users

Open Windows Task Manager -> Processes (tab)

If your tab is running as 64-bit you should see two "iexplore.exe" processes. If you see one process named "iexplore.exe" and another named "iexplore.exe *32" your tabs are still running on 32-bit. If this is the case you should recheck the set up steps above.

Windows 8.1 & 10 Users

Open Windows Task Manager -> Details (tab)

Right click on one of the columns and click Select columns

Check Platform

The Platform column should now appear in the table showing whether the process is 32-bit or 64-bit

Your iexplore.exe processes should show as 64-bit if the tab is working correctly. If one of the iexplore.exe processes is running as 32-bit recheck the set up steps above.

Reset the Browser

If you are still getting a 32-bit tab, as a last resort you can try resetting your browser. While this will disable toolbars and add-ons it will also set it back to its original state. You will therefore need to reset the browser parameters above as well as any other parameters you may have altered for your business requirements (WebADI required settings for example). To reset the browser select the following from the IE Menu:

Tools -> Internet options -> Advanced (tab) -> Reset (button) -> Reset (button)

Internet Explorer: Known Issues

- [Internet Explorer Product Functionality Issues](#)
- [Internet Explorer Functionality Issues](#)
- [Internet Explorer JRE Plug-in Issues](#)
- [Internet Explorer Issues \(Historical Information\)](#)

Internet Explorer Product Functionality Issues

IE11 Session Timeout

When running through Framework pages, in particular when revisiting the same pages numerous times, the session may suddenly timeout and put you back to the login screen. After logging back in the session is resumed normally. You can *temporarily* workaround this issue by change the page refresh setting in IE to 'Automatically':

Tools -> Internet Options -> General tab -> Browsing History -> Settings (button) -> Automatically.

To fix this issue apply [Patch 28141361:R12.FND.C](#) by following its readme. You can then change the page refresh setting in IE back to the recommended 'Every time I visit the page':

Tools -> Internet Options -> General tab -> Browsing History -> Settings (button) -> Every time I visit the webpage.

CRM Prerequisite Patch 20986782:R12.CC_PF.B Known Issues

After applying CRM IE 11 prerequisite [Patch 20986782:R12.CC PF.B](#) the following issues have been observed.

Issue 1: The following files are invalid, to fix the issues apply the patches listed below. For further information see [Document 2037104.1](#):

OZF_UTILITY_PVT (Trade Management) package body fixed by [Patch 14321766:R12.OZF.B](#)
IEM_EMAIL_PROC_PVT (Email Center) package body fixed by [Patch 12663292:R12.IEM.B](#)

Issue 2: The following file fails on compilation, to fix the issue apply the patch below:

iemsa_attach.jsp version 120.4.12010000.4 fixed by [Patch 13602427](#).

Return to [IE 11 Prerequisite Patch Requirements \(Required\)](#).

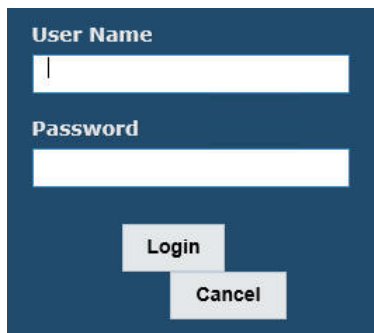
Attachment File Name Displays as OADownload.*

When downloading an attachment from E-Business Suite 12.1.3 the file name displays as OADownload.*. To fix this issue apply [Patch 19798215](#) or later. For further information see [Document 2012917.1](#).

Page Button Misalignment

Pages in Oracle E-Business Suite 12.2 may display button misalignments. To fix this issue ensure you have unchecked the 'Display intranet sites in Compatibility View' as outlined in the [IE11 Enterprise Mode and Compatibility View](#) section.

For example, such misalignments can display in the Login page as shown below:



JTT: Form Display Issues in IE 11

Email Center, Trade Planning Offer and Budget and Claims pages may have display issues such as overlapping buttons when running through IE11. To fix this issue apply [Patch 21325287:R12.JTT.C](#) or later. .

FWK: LOV's Won't Open

The 'Binary and script behaviors' parameter within IE is enabled by default. This setting is required for basic LOV and PPR functionality within FWK. Disabling it will cause LOV's not to open so it must be left enabled.

Assuming you are running EBS through the 'Trusted Sites' security zone, this parameter can be reset through:

Tools -> Internet Options -> Security -> Trusted Sites -> Custom Level -> ActiveX controls and plug-ins -> Binary and script behaviors -> Enable

Infotiles Feature in EBS 12.2

The Infotiles feature in Oracle E-Business Suite 12.2.5 and later is only supported for Internet Explorer users running IE10 or later.

For further information on this and other new Framework features see [Document 2046249.1](#) titled, 'Oracle Application Framework Release Notes for Release 12.2.5'

Discoverer Viewer Users

After clicking the drill icon on a worksheet the drill items are not listed when running Discoverer Viewer through IE7 and higher. To fix this issue:

Discoverer Viewer 10.1.2.0.2 and 10.1.2.1 and 10.1.2.2 users should apply [Patch 5673463](#). Contact support to request this patch.

Discoverer Viewer 10.1.2.2 Cumulative Patch (CP7) and lower users should apply [Patch 5673463](#). Contact support to request this patch.

This issue is fixed in Discoverer 10.1.2.2 Cumulative Patch (CP8) and Discoverer 10.1.2.3 and higher.

Internet Explorer Functionality Issues

Tabbed Browsing in IE

Window Ordering with HTML Pages

In certain circumstances HTML pages may occasionally open behind the Forms Navigator. This issue can be avoided by instead opening pages in a new window. This is set in the browser through:

Tools -> Internet Options -> General (tab) -> Tabs -> Always open pop-ups in a new window

Exporting Data and Opening Attachments (File Association)

Any file types that are used to interact between Oracle E-Business Suite and the desktop (e.g. *.xls, *.csv etc.) must be associated with a suitable program to open it. Without any association the Window will not open or will briefly open and then close immediately when run from the browser. This may occur for example, when using 'File -> Export' to an excel spreadsheet or when opening an attachment from E-Business Suite.

Browser Helpers and Toolbars

The use of certain browser helpers and Toolbars may cause the browser to crash when trying to login to Oracle E-Business Suite due to their incompatibility with older plug-in versions. To remove a toolbar:

- On the Start menu, click Control Panel
- Double-click Add or Remove Programs
- Select the appropriate toolbar
- Click the Remove button

To disable an add-on:

- From the browser menu, Tools -> Manage Add-ons -> Enable or Disable Add-ons
- Select the appropriate add-on
- Under 'Settings' click the 'disable radio' button
- Restart the browser

Java(TM) was blocked because it is out of date and needs to be updated

This can affect users **not** running through the 'Trusted Sites' browser security zone who are using an old (not the latest) JRE version.

From the 9th September 2014 Internet Explorer has started blocking out of date ActiveX controls running through any security zone **except** the 'Local intranet' or the 'Trusted sites' zones when using IE 8 or later. Trying to run any Java content from your desktop using older JRE releases, prior to the latest CPU's on any JRE stream, through any other zone for example the 'Internet' zone will now be blocked. This issue may therefore affect Oracle E-Business Suite users trying to access forms and any other Java content. Further information on this latest security feature is available from this [Microsoft](#) announcement and its associated links.

Oracle's recommendation has always been to run Oracle E-Business Suite through the 'Trusted sites' zone as outlined under the [Internet Explorer: Recommended Browser Settings](#) section within this document. Users that have followed this advisory or run their environments through the Local Intranet zone will **not be affected** by this change within IE.

Users that are running their Oracle E-Business Suite environments through any other zone and are also using an old JRE version on any stream will not be able to access forms or any other Java content. Microsoft provide a workaround in their documentation to turn this feature off which can be used to workaround this issue if desired. However, Oracle continues to recommend running your Oracle E-Business Suite environments to through the 'Trusted sites' zone of the browser which will avoid this issue occurring.

Upgrading to the latest and therefore most secure JRE version will also prevent Java content being blocked from any IE security zone.

Loosely-Coupled IE (LCIE)

Loosely-Coupled IE (LCIE) is standard IE browser behavior in IE8 and higher. This splits the browsers frame and its tabs into separate processes on the desktop to improve performance and browser recovery if a tab crashes. Oracle E-Business Suite users may be affected in the following ways.

Multiple Java Console Windows Open

With the 'Show Console' option set in the Java Control Panel, launching a forms based application through IE8 or higher may cause two separate 'Java Console' windows to open. Accessing further applets from the same Oracle E-Business Suite session may also cause further 'Java Console' windows to appear. This will not always be seen because not every tab will necessarily be started in its own process because LCIE will attempt to balance reliability with performance. Therefore the issue of multiple java console windows is most likely to be seen if running from a high specification multi-core processor desktop.

If required you can prevent the java console from appearing by running the following from your desktop client:

```
Control Panel -> Java (icon) -> Advanced (tab) -> Java Console -> select the 'Hide Console' (radio button)
```

Cross-Site Scripting Errors (XSS)

'Internet Explorer has modified this page to prevent a possible cross-site scripting attack'

XSS Error when Launching Forms

Oracle E-Business Suite 12.0 and 12.1 users may encounter an XSS error in the browser window when launching any forms based application.

This may occur because the required Forms 10.1.2.3 servlet components may not have been deployed properly when Forms 10.1.2.3 was first installed in your Oracle E-Business Suite Release 12 environment.

If your end-users running IE8 or higher encounter this error when attempting to launch a Forms-based E-Business Suite product, redeploy the Forms 10.1.2.3 formsapp.ear file by following [Document 397174.1](#) titled, 'Deploying a New EAR File in Oracle Applications Release 12'.

XSS Error After Launching Forms Multiple Times

Some users may suddenly encounter an XSS error after successfully opening and closing multiple forms within a session thereby preventing any further forms launches. To fix this issue, turn off XSS for requests to the forms servlet by making the following configuration changes to the template file, apps_conf_1013.tmp:

1. Back up your template file: \$FND_TOP/admin/template/apps_conf_1013.tmp

2. Add the following lines to the template file apps_conf_1013.tmp:

```
<Location /forms/frmservlet>
  Header set X-XSS-Protection 0
</Location>

<Location /OA_HTML/frmservlet>
  Header set X-XSS-Protection 0
</Location>
```

3. Run Autoconfig to update the configuration file: `$INST_TOP/ora/10.1.3/Apache/Apache/conf/apps.conf`

Note: For further information on customizing AutoConfig template files see Section 4: Customizing AutoConfig-Managed Configurations within [Document 387859.1](#) titled, 'Using AutoConfig to Manage System Configurations in Oracle E-Business Suite Release 12'.

Internet Explorer JRE Plug-in Issues

JRE (oaj2se.exe) Download from Internet Explorer Fails

The September 2016 (IE11) security update KB3185319 breaks the JRE (oaj2se.exe) download function from the Oracle E-Business Suite server. Normally if you do not have a suitable JRE plugin release installed on your desktop you will be prompted to install the version called from the server allowing the oaj2se.exe file to be downloaded. After this update, despite clicking through the prompts the oaj2se.exe file does not download. To fix this issue apply the appropriate patch as applicable to your Windows release as outlined on Microsoft's [ActiveX installation that uses AXIS fails after you install MS16-104](#) page (For seamless operation when accessing the patches it is advisable to use IE to access this page and associated links).

- Windows 7 and 8.1 users require KB3192665
- Windows 10 users require KB3193519

If you are unable to install the fix at this time, users may workaround the problem by calling the file directly from the URL:

```
http(s)://<myserver.example.com>:<port>/OA_HTML/oaj2se.exe
```

For further information on using the JRE download function see [Internet Explorer Browser Settings for User Download of oaj2se.exe](#)

TabProcGrowth Registry Setting

Since IE8 the default browser architecture has been [Loosely-Couple IE \(LCIE\)](#), whereby the browser frame and tabs are opened in two separate iexplore.exe processes. Users may previously have retained the old single iexplore.exe session where the tabs and frame all opened in a single iexplore.exe process by setting up the TabProcGrowth key in the Windows registry and setting its value to 0. Using this old standard can also prevent the JRE (oaj2se.exe) file from downloading causing no download prompt to open. If this is the case, turn LCIE on again by following the steps below.

- Open the registry editor.
- Navigate to: `HKEY_CURRENT_USER\Software\Microsoft\Internet Explorer\Main`.
- Locate the `TabProcGrowth` key (if it exists).
- If the `TabProcGrowth` key is set to 0 either, delete the key, or set its value to 1
- Save the change and re-boot the desktop.

Multiple EBS Java Sessions (JRE Plugin Users)

Previous releases of Internet Explorer (IE7 and earlier) allowed users to run multiple independent Java sessions each within its own browser session when using the JRE plugin technology. This therefore allowed multiple sessions to the same Oracle E-Business Suite environment concurrently from the same desktop.

By default the 'Session Merging' feature introduced in IE8 prevents this functionality from working by default. This is because the same session id is used when accessing the same Oracle E-Business Suite environment. By default this will occur if you select `New Window`, `New Tab` or `Duplicate Tab` from the the browsers `File` menu, or if you open another browser window through the desktop browser icon.

This can result in unusual behavior with invalid sessions causing errors such as "Your login session has become invalid", "Unable to authenticate session" and failures to launch forms causing errors such as "FRM-92050: Failed to connect to the server: /forms/formservlet: -1"

To retain the use of multiple sessions through a separate session id to the same Oracle E-Business Suite environment running IE8 and higher, use one of the workarounds below to ensure each browser session remains independent:

1. Open a new explorer window using its own session cookie by selecting `File -> New Session` from the `Menu Bar` in an existing browser window.
 - Users may have to enable the `Menu Bar` first by right clicking the browser header frame and selecting `Menu Bar`.

2. Run from the command line adding the `-noframemerging` parameter e.g. Start -> Run -> `iexplore -noframemerging`
3. Create a new IE icon adding the `-noframemerging` parameter e.g.
 - Start -> Program Files
 - Right click on the Internet Explorer icon and select Properties
 - Add `-noframemerging` to the end of the link in the Target field e.g.
`"C:\Program Files\Internet Explorer\iexplore.exe" -noframemerging` Or
`"C:\Program Files (x86)\Internet Explorer\iexplore.exe" -noframemerging`
 - Click the OK button to close the window
 - This icon may then be copied to the desktop if desired

Unable to Authenticate Session (JRE Plugin Users)

If you receive an 'Unable to authenticate session' error in your browser when running multiple sessions using the JRE Plugin architecture, set the `-noframemerging` option as outlined in the [Multiple EBS Java Sessions](#) section above.

If this does not resolve the problem or you are not running multiple sessions, clear your browser cache by deleting the 'Temporary Internet Files' through:

Tools -> Internet Options -> General (tab) -> Browsing History -> Delete (button)

Internet Explorer Issues (Historical Information)

XML Reports (RTF file extensions)

Windows 7 users running IE8 and higher cannot open *.rtf format files through the browser. When clicking the 'OK' button on the 'Opening *.rtf' modal window the file will not open and the modal window will come up again. Associate a different program such as Wordpad or Microsoft Word with the *.rtf extension to enable these files to open on the desktop.

- Control Panel -> Default Programs -> Associate a file type or protocol with a program
- Select `.rtf` under the Name column from the list
- Click the Change Program button.
- Select an appropriate program i.e. Wordpad
- Click the OK button

Discoverer Viewer Users

After clicking the drill icon on a worksheet the drill items are not listed when running Discoverer Viewer through IE7 and higher. To fix this issue:

Discoverer Viewer 10.1.2.0.2 and 10.1.2.1 and 10.1.2.2 users should apply [Patch 5673463](#). Contact support to request this patch.

Discoverer Viewer 10.1.2.2 Cumulative Patch (CP7) and lower users should apply [Patch 5673463](#). Contact support to request this patch.

This issue is fixed in Discoverer 10.1.2.2 Cumulative Patch (CP8) and Discoverer 10.1.2.3 and higher.

Section 3: Firefox (FF) for Windows Users

Firefox Browsers Overview (ESR vs Rapid Release)

The E-Business Suite is certified and tested against the [Firefox Extended Support Release \(ESR\)](#) which is supported by the vendor for approximately a year. For further information on the support lines and other information, see [Mozilla Firefox ESR Overview](#).

Firefox General Information

- [Firefox: Certification Matrices](#)
- [Firefox: Prerequisite Patch Requirements](#)
- [Firefox: Recommended Browser Settings](#)
- [Firefox: Importing an SSL/TLS Certificate](#)
- [Firefox: Known Issues](#)

Firefox: Certification Matrices

Oracle E-Business Suite R12 has two interfaces: a web-based (OA Framework/HTML) model for modules like iProcurement and iStore, and Oracle Forms/Java based model for our professional services modules like Oracle Financials.

- Firefox ESR is certified for E-Business Suite customers running web-based (HTML / OA Framework) screen.
- Firefox ESR is certified for running Java content using Java Web Start (JWS) - [Document 2188898.1](#).

Certification Matrix for Firefox and Java Web Start

Both 32-bit and 64-bit releases of Firefox Extended Support Release (ESR) can use Java Web Start (JWS) for running Java content within the E-Business Suite. JWS runs on the desktop rather than within the browser. The bitness of the browser and JRE version are independent of each other and can therefore run in any combination.

The table below outlines the currently certified Windows desktop operating system, Firefox ESR and minimum JRE 8 releases certified with the E-Business Suite 12.2 and 12.1.

Browser Version	Java Technology	Windows 10 (32-bit & 64-bit)	Windows 8.1 (32-bit & 64-bit)	Windows 7 (32-bit & 64-bit)
Firefox Quantum ESR 68.x (32-bit and 64-bit)	JWS (32-bit or 64-bit)	JRE 8 (1.8.0_151 and higher)	JRE 8 (1.8.0_151 and higher)	JRE 8 (1.8.0_151 and higher)

Firefox Extended Support Release (ESR)

Firefox ESR 60.x reached 'End of Life' and became unsupported by the vendor on the 23rd of October 2019.

It is recommended that any users running this release upgrade to Firefox ESR 68.x.

The Netscape Application Programming Interface (NPAPI) plugin is no longer supported by Firefox, meaning you can no longer access Java content

using the Java Plugin. Users must implement Java Web Start (JWS) to run any Java content using Firefox by following [Document 2188898.1](#).

Firefox Extended Support Release (ESR) versions are supported by the vendor for approximately one year. For support lines and other information, see [Mozilla Firefox ESR Overview](#)

Firefox Extended Support Release (ESR) versions are supported by the vendor for approximately one year. For support lines and other information, see [Mozilla Firefox ESR Overview](#)

Compatibility with higher JRE releases

Oracle has certified the Oracle E-Business Suite with the minimum JRE releases noted above. Oracle E-Business Suite end-users may use or upgrade to later production releases of JRE on any stream at their discretion. It is recommended to upgrade to the latest certified JRE releases to uptake the latest security and functional fixes.

Oracle will continue to test and certify the Oracle E-Business Suite with selected future versions of JRE releases in advance of their general availability to the public. Oracle will update this documentation with known compatibility issues or workarounds as needed.

EBS patching policy for Firefox compatibility issues

Oracle E-Business Suite Development will issue new E-Business Suite patches or workarounds that can be reproduced with Firefox Extended Support Releases. If you report compatibility issues with Firefox personal releases that cannot be reproduced with Firefox Extended Support Releases, your options are:

1. Deploy a certified Firefox Extended Support Release version instead of the Firefox personal version
2. Report the incompatibility between Firefox ESR and Firefox personal to Mozilla
3. Use Internet Explorer (on Windows) or Safari (on macOS X) until Mozilla resolves the issue

Firefox: Prerequisite Patch Requirements

Firefox Browser

As a minimum requirement, Oracle E-Business Suite 12.1 users running Firefox should apply the Oracle Fusion Middleware 10.1.3.5 Oct 2015 CPU patch or later. For further information see [Secure Connection Failed](#) in Known Issues.

Windows 10 and Windows 8.1 Users

Firefox ESR (32-bit) releases are certified as client browsers on Windows 10 (32-bit and 64-bit) and Windows 8.1 (32-bit and 64-bit) with the following base prerequisite requirements:

- Oracle E-Business Suite Release 12.2.x
- Oracle E-Business Suite Release 12.1.3

Known Issues

For known issues see [Windows 8 Specific Issues](#)

Windows 7 Users

Firefox ESR 10.x (32-bit) and higher are certified as client browsers on Windows 7 (32-bit & 64-bit) with the following requirements:

- Oracle E-Business Suite Release 12.1.1 or higher

Firefox: Recommended Browser Settings

Pop-up Blocker

Certain content within Oracle E-Business Suite requires pop-ups to function in the browser. If you are blocking pop-ups through your browser settings, add your URL (e.g. *https://server.example.com:4443*) as an allowed exception under:

Options -> Content -> Pop-ups -> Exceptions (button)

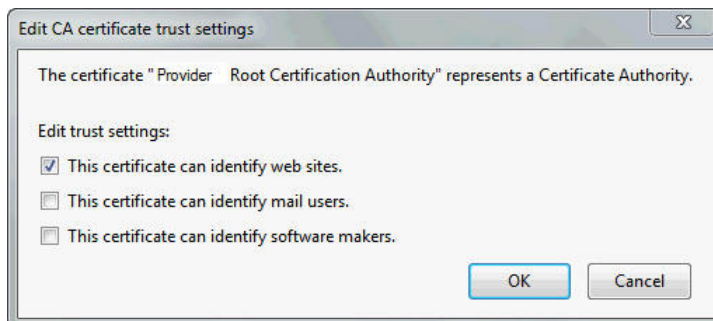
Shared Desktop Security

If multiple users share the same desktop, they may be able to view a previous users browser content by pressing the 'Back' button on the browser. To avoid this issue set the 'Force Page Refresh' profile option to 'Yes' at Site level in your Oracle E-Business Suite 12 instance.

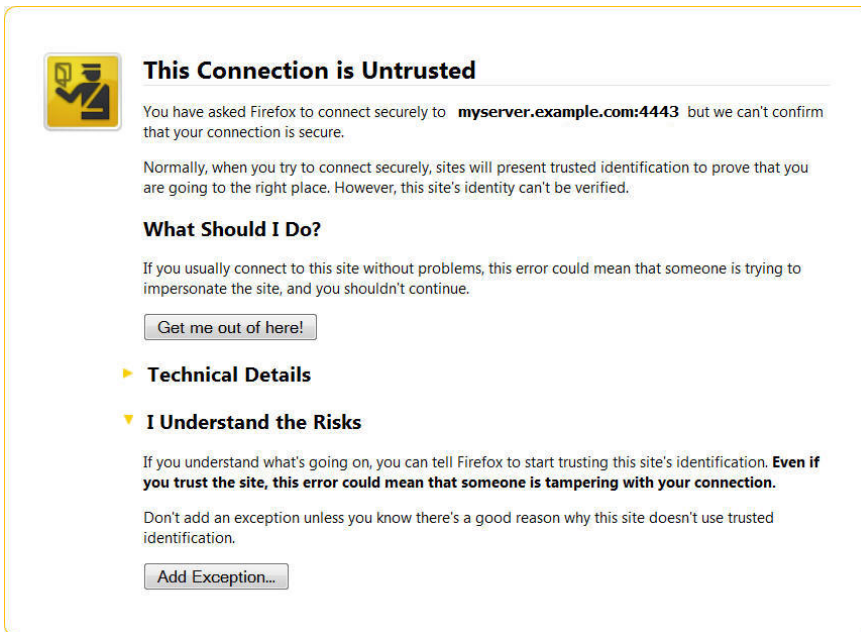
Firefox: Importing an SSL/TLS Certificate

If you are using an SSL certificate that is not from one of the standard recognized Certificate Authorities (CA), for example your own in-house CA, add the root certificate as a trusted authority within Firefox.

1. Copy the SSL/TLS root certificate to your desktop
2. Open Firefox and navigate to 'Certificate Manager': Options -> Privacy & Security -> Certificates -> View Certificates -> Authorities -> Import
3. Upload the root certificate from your desktop and tick: Trust this CA to identify websites.
4. Close the 'Certificate Manager' window



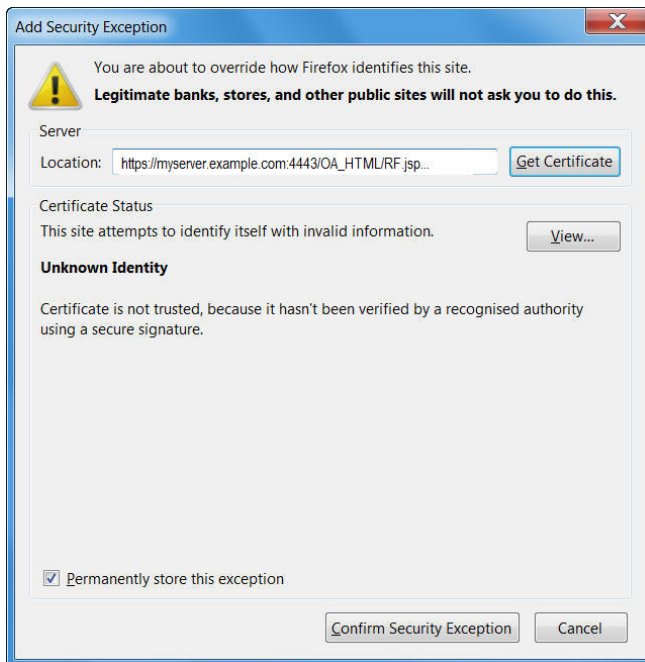
If the root certificate is not installed a message similar to the following will appear.



Workaround

If you cannot install the root certificate at this time you can trust the certificate authority and stop this error page appearing on future logins, by adding an exception:

1. Click the 'Add Exception...' button and the 'Add Security Exception' window should open.



2. Check 'Permanently store this exception'.

If this checkbox is grayed out you will first need to turn on History (this can be turned off again after trusting the certificate) as follows:

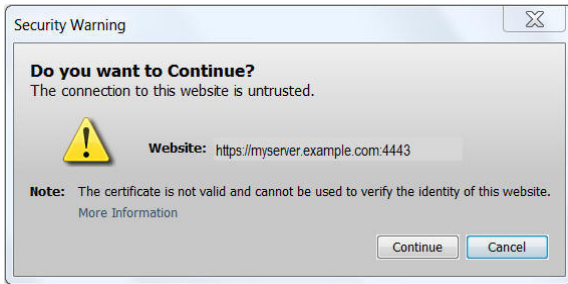
Tools -> Options -> Privacy & Security -> Set Firefox will: Remember history
Click OK button

3. Click the `Confirm Security Exception` button.

SSL Warning Message

"The connection to this website is untrusted"

If you are using an SSL/TLS certificate that is not from a recognized Certificate Authority (CA), for example your own in-house CA, you may see the following pop-up when launching Java content:



To prevent this message appearing copy your SSL root certificate to the desktop then import it into the Java 'Secure Site CA' certificate store.

Java Control Panel -> Security (tab) -> Manage Certificates (button) -> Certificate Type: Secure Site CA -> Import (button)

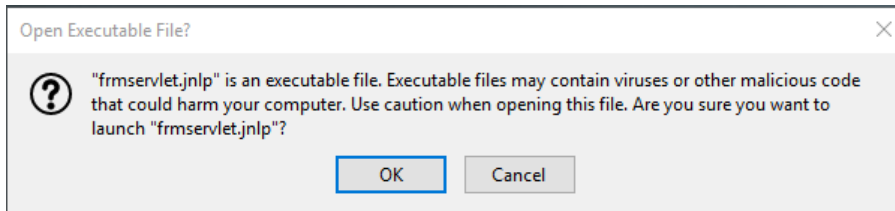
Firefox: Known Issues

- [Open Executable File?](#)
- [Associated Files Not Opened Automatically and Blank Tab Left Open](#)
- [Firefox Behavior Issues](#)
- [Firefox Product Issues](#)
- [Secure Connection Failed \(Historical Information\)](#)

Open Executable File?

Firefox 68.0.0esr & 68.1.0esr Users

In previous releases of Firefox, setting the JNLP file to open with 'Java Web Start Launcher' within the browser allowed Java content to launch seamlessly when called. Due to a new security feature in Firefox 68.0.0esr and Firefox ESR 68.1.0esr this setting will now prompt the user with the following pop-up message. Click 'OK' to verify you wish to run the *.jnlp file to continue the launch process.



This issue is fixed in Firefox 68.2.0esr and later returning Firefox to the original behavior, meaning the pop-up will no longer appear.

Associated Files Not Opened Automatically and Blank Tab Left Open

Despite having previously ticked the 'Do this automatically for files like this from now on.' in the Firefox Save/Open pop-up window it continues to open when downloading files. Additionally a blank tab can be left in the browser window after closing the pop-up. This can be seen when downloading files through 'File -> Export' for example.

To fix this issue, install the Firefox add-on "Inline Disposition 2". For JRE Plug-in users this fixes both the Save/Open pop-up window and tab not closing issues.

For JWS users, this fixes the Save/Open pop-up window issue but does not the tab not closing issue. This tab can be closed manually while the possibility of a further fix in this area is investigated.

Firefox Behavior Issues

Browser Window Opens Behind the Forms Window

Opening an html page from the forms navigator may cause the html window to open behind the navigator window when using Firefox.

This issue is fixed in JRE 1.6.0_30 (6u30) and higher with the following browser options set:

- Tools -> Options -> Content -> Enable JavaScript (checked)

- Tools -> Options -> Content -> Enable JavaScript -> Advanced... (button) -> Raise or lower windows (checked)
- Tools -> Options -> Tabs -> Open new windows in a new tab instead (unchecked)

Multiple Sessions

You may only access a single Oracle E-Business Suite instance from a single desktop session when using the Firefox browser. Currently *'Internet Explorer'* is the only browser that allows you to access multiple instances or multiple Application Responsibilities concurrently from the same desktop session, through the use of multiple browser sessions.

Tab functionality in the Firefox Browser

Firefox uses tabbed browsing by default. Forms in Oracle E-Business Suite are supported and launched through a separate frame. Therefore, even with tabs enabled, the forms navigator and the forms windows will continue to open in a new window and not in a new tab. This is intended functionality and is not a bug.

Personal Homepage Setting

The ICX 'Personal Homepage' setting is not supported with the Firefox browser.

Rich Text Editing

The Cut, Copy and Paste buttons within the Rich text Editor on Oracle Applications Framework do not work by default when using a Firefox browser. This is due to a security feature within Firefox. We recommend that the keyboard shortcut keys, which do still work by default are used for this functionality. If you still wish to use the buttons, this can be enabled by editing the users Firefox preference file. Further information is available from the [Cut, Copy and Paste Buttons](#) and [Security preferences](#) pages

Firefox Product Issues

Balanced Scorecard

The Vb client is not supported when using Firefox.

Product Workbench

Product Workbench requires ActiveX controls which are not supported in Firefox. If you need to run this product use Internet Explorer with ActiveX controls enabled.

Projects Interface

Oracle Projects interface with Microsoft Projects through WebADI is only supported using Internet Explorer. Trying to use this functionality through Firefox will display the following exception:

```
Exception Name: oracle.apps.bne.exception.BneFatalException - Viewer only available for Microsoft Internet Explorer.
```

XML Reports (RTF file extensions)

Firefox users cannot open *.rtf format files through the browser. When clicking the 'OK' button on the 'Opening *.rtf' modal window the file will not open and the modal window will come up again. Associate a different program such as Wordpad or Microsoft Word with the .rtf extension to enable these files to open on the desktop.

- Control Panel -> Default Programs -> Associate a file type or protocol with a program
- Select .rtf under the Name column from the list
- Click the 'Change Program' button.
- Select an appropriate program i.e. Wordpad
- Click the 'OK' button

Secure Connection Failed (Historical Information)

Oracle E-Business Suite 12.1 users running Firefox ESR 45.x may see the following error when attempting to load their environments login page:

```
Secure Connection Failed

The connection to server.example.com:4443 was interrupted while the page was loading.
```

The default value of the Firefox parameter, `security.tls.version.fallback-limit` has been changed from 1 to 3 in this release. This change in combination with the latest patching levels will cause this error to display when using TLS enabled environments.

Patch Fix

To fix this issue, apply the Oracle Fusion Middleware 10.1.3.5 Oct 2015 CPU patch:

Unix Users: [Patch 21845960](#)

Windows Server Users: [Patch 21845962](#)

For further information see [Document 2051000.1](#) titled, 'Oracle E-Business Suite Releases 11i and 12 Critical Patch Update Knowledge Document (October 2015)'

Workaround

If you are unable to apply the patch at this time and need to workaround the issue in the meantime, set the value back to 1 through the browser configuration.

```
Open Firefox and enter about:config
In the Search field enter tls
Double click security.tls.version.fallback-limit and set the value to 1
```

Section 4: Chrome for Windows Users

[Chrome: Certification Matrices](#)

[Chrome: Prerequisite Patch Requirements](#)

[Chrome: Recommended Browser Settings](#)

[Chrome: Known Issues](#)

Chrome: Certification Matrices

Oracle E-Business Suite R12 has two interfaces: a web-based (OA Framework/HTML) model for modules like iProcurement and iStore, and Oracle Forms/Java based model for our professional services modules like Oracle Financials. Google has phased out Chrome's support for the Java Plug-in preventing it from running, see [API \(NPAPI\) support](#).

- Chrome is certified for E-Business Suite customers running web-based (HTML / OA Framework) screen
- Chrome is certified for running Java content using Java Web Start (JWS) - [Document 2188898.1](#).
- Chrome is not certified for running Java content using the JRE Plug-in - [Document 393931.1](#).

Chrome is a certified browser for:

- Oracle E-Business Suite 12.2.4 and higher
- Oracle E-Business Suite 12.1.3

Certification Matrix for Windows Operating Systems and Oracle E-Business Suite

The table below outlines the currently certified Desktop Client Operating System and JRE 8 releases for use with Java Web Start (JWS).

Browser	Windows 10 (32-bit & 64-bit)	Windows 8.1 (32-bit & 64-bit)	Windows 7 (32-bit & 64-bit)
Chrome	JRE 1.8.0_151 and higher	JRE 1.8.0_151 and higher	JRE 1.8.0_151 and higher

JRE 8 Update 144 b01	JRE 8 Update 144 b01	JRE 8 Update 144 b01
JRE 8 Update 141 b15	JRE 8 Update 141 b15	JRE 8 Update 141 b15
JRE 8 Update 131 b31	JRE 8 Update 131 b31	JRE 8 Update 131 b31
JRE 8 Update 121 b33	JRE 8 Update 121 b33	JRE 8 Update 121 b33

Chrome releases are updated every six to eight weeks. Oracle is unable to test every new version of Chrome with the E-Business Suite. Oracle is expected to certify selected Chrome releases on an ongoing basis. The latest full certification was against Chrome v44 however customers may still use later Chrome releases. Oracle will investigate any reported issues and attempt to reproduce the problem on our certified release and will provide patches for reproducible issues, subject to technical feasibility.

If the issue cannot be reproduced, customers may be advised to:

- Wait and see whether the next release of Chrome fixes the issue.
- Use a certified version of Internet Explorer or Firefox ESR

Issues specific to other Chrome releases may still be documented as known issues.

Certification Matrix for Mobile Devices

Browser Version	Mobile Operating System	Certified Devices	EBS Release 12.2.4 and Higher	EBS Release 12.1.3
Chrome v35	Android v 4.1 or Higher	Samsung Galaxy Tab (4.1.2)	Certified	Certified

Using Other Mobile Devices and Later Chrome Releases

Oracle EBS Development uses Samsung and Nexus mobile devices in the certification testing cycles for Oracle E-Business Suite. These are considered to be our *reference devices*.

Customers may use other Android-based devices and later Chrome releases. Oracle will attempt to reproduce reported issues on our *reference devices*. Oracle will provide patches for reproducible issues, subject to technical feasibility.

If the issue cannot be reproduced using our reference devices, customers may be advised to:

- Wait and see whether the next release of Chrome fixes the issue.
- Consult with their device vendor for guidance.
- Use a desktop client.

Device-specific issues that cannot be reproduced with our reference devices may be documented as known issues.

Chrome: Prerequisite Patch Requirements

Oracle E-Business Suite 12.2.4 and Higher Users

There are no patch requirements for Oracle E-Business Suite 12.2.4 and higher users

Oracle E-Business Suite 12.1.3 Users

Oracle E-Business Suite 12.1.3 users must apply [Patch 18936791](#):R12.FWK.B.delta.4 or later.

Chrome: Recommended Browser Settings

JavaScript

Ensure JavaScript is enabled under:

```
Settings -> Show Advanced Settings -> Privacy -> Content Settings -> JavaScript -> Allowed  
(recommended)
```

Pop-up Blocker

Certain content within Oracle E-Business Suite requires pop-ups to function in the browser. If you are blocking pop-ups through your browser settings, add your URL (e.g. <https://example.com>) as an allowed exception under:

```
Settings -> Show Advanced Settings -> Privacy -> Content Settings -> Pop-ups and redirects -> Allow ->  
Add (button)
```

Chrome: Known Issues

SSL server probably obsolete

SSL server probably obsolete error

Trying to open an SSL enabled EBS environment from Chrome v45 or higher may show the following error page:

```
SSL server probably obsolete  
ERR_SSL_FALLBACK_BEYOND_MINIMUM_VERSION
```

To fix this issue, apply the Oracle Fusion Middleware 10.1.3.5 Oct 2015 CPU patch:

Unix Users: [Patch 21845960](#)

Windows Server Users: [Patch 21845962](#)

For further information see [Document 2051000.1](#) titled, 'Oracle E-Business Suite Releases 11i and 12 Critical Patch Update Knowledge Document (October 2015)'

Product Workbench

Product Workbench requires ActiveX controls which are not supported in Chrome. If you need to run this product use Internet Explorer with ActiveX controls enabled.

Projects Interface

Oracle Projects interface with Microsoft Projects through WebADI is only supported using Internet Explorer. Trying to use this functionality through Chrome will display the following exception:

```
Exception Name: oracle.apps.bne.exception.BneFatalException - Viewer only available for Microsoft  
Internet Explorer.
```

Oracle MES for Discrete Manufacturing

'Tif' Images are not Opened by Default

'Tif' image attachment types are not opened by default when using the Chrome browser but they are saved to downloads. A fix for this issue is in progress. To view the image in the meantime, open it from downloads.

Oracle Order Management

Navigator Tree Displays outside the Window

Clicking on the navigator icon from within the 'Create Order' page causes the navigator tree to display outside the window. A fix for this issue is currently in progress

Oracle Knowledge Management

Changing Solution Name

You are unable to change the Solution Name when using Chrome. When trying to save the change the error "you do not have access to this solution. Contact your system administrator" is displayed preventing the change. A fix for this issue is currently in progress.

Hiding/Removing 'Details' and 'Remove' Columns

The 'Details' and 'Remove' columns cannot be hidden or removed in the 'Recommended Solutions' rich table when using Chrome. Despite clicking on the 'settings' icon, unchecking the tick marks against these columns and clicking anywhere on the screen, they are still displayed. A fix for this issue is currently in progress.

Section 5: Edge for Windows Users

- [Edge: Certification Matrices](#)
- [Edge: Prerequisite Patch Requirements](#)
- [Edge: Known Issues](#)

Edge: Certification Matrices

Oracle E-Business Suite R12 has two interfaces: a web-based (OA Framework/HTML) model for modules like iProcurement and iStore, and Oracle Forms/Java based model for our professional services modules like Oracle Financials.

- Edge is certified for E-Business Suite customers running web-based (HTML / OA Framework) screens.
- Edge is certified for running Java content using Java Web Start (JWS) - [Document 2188898.1](#).
- Edge is not certified for running Java content using the JRE Plug-in - [Document 393931.1](#).

Certification Matrix for Windows Operating Systems and Oracle E-Business Suite Releases:

The table below outlines the currently certified Desktop Client Operating System and required JRE 8 releases for use with Java Web Start (JWS).

Browser	Windows 10 (32-bit & 64-bit)
Edge	JRE 8 Update 151 and higher JRE 8 Update 144 b01 JRE 8 Update 141 b15 JRE 8 Update 131 b31 JRE 8 Update 121 b33

Edge: Prerequisite Patch Requirements

Running Microsoft Edge requires the following patches (or later). Apply the patches and any prerequisites by following their readme file as applicable to your EBS 12 release.

Product Requirements	EBS 12.2	EBS 12.1
General	Patch 21900895 :R12.ATG_Pf.C.delta.6	Patch 9239090 :12.1.3 Release Update Pack Patch 22284589 :R12.FWK.B.delta.5 Patch 28446128 :R12.FWK.B Note 1

Note 1 [Patch 28446128:R12.FWK.B](#) includes a fix for better download filename handling when using Edge browser. This patch has since been superseded by [Patch 28598365:R12.FWK.B](#).

WebADI and FRM Users

For WebADI and FRM patch requirements and additional information, see [Document 1077728.1](#): Microsoft Office Integration with Oracle E-Business Suite 11i and R12.

Edge: Known Issues

Product Workbench

Product Workbench requires ActiveX controls which are not supported in Edge. If you need to run this product use Internet Explorer with ActiveX controls enabled.

Projects Interface

Oracle Projects interface with Microsoft Projects through WebADI is only supported using Internet Explorer. Trying to use this functionality through Edge will display the following exception:

Exception Name: oracle.apps.bne.exception.BneFatalException - Viewer only available for Microsoft Internet Explorer.

Value and Supply Chain Planning

Value Chain Planning and Supply Chain Planning are not supported using Edge browser.

Section 6: macOS Users

[macOS: Firefox Certification Matrix](#)

[macOS: Safari Certification Matrix](#)

macOS: Firefox Certification Matrix

- Firefox ESR 60.x and higher is certified for E-Business Suite users running web-based (HTML / OA Framework) screens.
- Firefox ESR 60.x and higher is certified for running Java content using Java Web Start (JWS) technology.
 - Running Firefox on macOS using Java Web Start (JWS) requires additional patching and set up. For further information see [Document 2188898.1](#) titled, 'Oracle E-Business Suite with Java Web Start'.
- Firefox ESR 60.x and higher is **not** certified for running Java content using Java Plug-in technology.

The table below outlines the **minimum** certified Firefox ESR Browser, macOS and JRE 8 releases for Oracle E-Business Suite 12.2 and 12.1.

macOS	Firefox Browser	Java Web Start (JWS)
macOS Catalina 10.15.1 or higher	FF ESR 68.x	JRE 8 (1.8.0_241 and higher)
macOS Mojave 10.14.5 or higher	FF ESR 68.x	JRE 8 (1.8.0_221 and higher)
macOS High Sierra 10.13.6 or higher	FF ESR 68.x	JRE 8 (1.8.0_221 and higher)
macOS Mojave 10.14.1 or higher (Historical Information)	FF ESR 60.x Note 1	JRE 8 (1.8.0_191 and higher) Note 2
macOS High Sierra 10.13.3 or higher (Historical Information)	FF ESR 60.x Note 1	JRE 8 (1.8.0_171 and higher) Note 2

Note 1 Firefox ESR 60.x reached 'End of Life' and became unsupported by the vendor on the 23rd of October 2019. It is recommended that any users running this release upgrade to Firefox ESR 68.x. Firefox Extended Support Release (ESR) versions are supported by the vendor for approximately one year. For support lines and other information, see [Mozilla Firefox ESR Overview](#)

Note 2 Running Java content using JWS downloads a *.jnlp file into the specified browser downloads folder. These are not removed automatically when running this version of JRE on macOS. To have the files removed automatically upgrade to JRE 8 (1.8.0_192 and higher).

- For further information on the latest certification, required settings and other information, see [Document 1533334.1](#) titled 'Oracle E-Business Suite Release Notes Release 12 for Apple Macintosh OS X'.
- For Internationalization information, see [Document 393320.1](#), titled 'Internationalization Update Notes for Release 12'.

macOS: Safari Certification Matrix

Note: Safari 12 is not certified with Oracle E-Business Suite. This browser release will no longer support Legacy NPAPI plug-ins (except Adobe flash), meaning you will no longer be able to launch Java content using the JRE Plug-in. For further information see, [Safari 12 Implications for E-Business Suite Users](#).

- Safari is certified for E-Business Suite users running web-based (HTML / OA Framework) screens.
- Safari 11 is certified for running Java content using the JRE Plug-in, see [Document 393931.1](#).
- Safari is not certified for running Java content using Java Web Start (JWS), see [Document 2188898.1](#).

The table below outlines the **minimum** certified Safari Browser, macOS and JRE 8 releases for Oracle E-Business Suite 12.2 and 12.1.

macOS	Safari Browser	JRE Plugin
macOS High Sierra 10.13.3 or higher	Safari 11 (11.0.3 and higher)	JRE 8 (1.8.0_171 and higher)
macOS Sierra 10.12.6 or higher	Safari 11 (11.0.2 and higher)	JRE 8 (1.8.0_121 and higher)
OS X El Capitan 10.11.6 or higher	Safari 11 (11.0.2 and higher)	JRE 8 (1.8.0_121 and higher)

- For further information on the latest certification, required settings and other information, see [Document 1533334.1](#) titled 'Oracle E-Business Suite Release Notes Release 12 for Apple Macintosh OS X'.
- For Internationalization information, see [Document 393320.1](#), titled 'Internationalization Update Notes for Release 12'.

Section 7: General Requirements and Issues

Running Multiple Sessions Using Java Web Start (JWS)

The functionality to enable running multiple sessions on a single E-Business Suite instance when using Java Web Start (JWS) is now available.

For details and patch requirements see [Document 2188898.1](#): Oracle E-Business Suite with Java Web Start.

WebADI and Report Manager Users

For further information on additional patch requirements for WebADI and Report Manager against all certified browsers, see [Document 1077728.1](#) titled, 'Microsoft Office Integration with Oracle E-Business Suite 11i and R12'.

Additional SSL/TLS Requirements for Java Web Start (JWS) Users

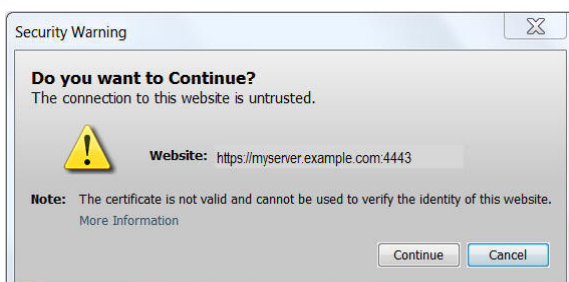
SSL/TLS users running Java Web Start (JWS) require a chain of trust to the Java certificate store for their server certificate on the desktop. This is in addition to the usual chain of trust to the browser.

If using a recognized certificate authority (CA) there should be no further requirements as the server certificate will already be included be in the Java 'System' store by default.

If using your own in-house CA you must import the server root (and if applicable the intermediate) certificate into the Java 'Secure Site CA' certificate store through the Java Control Panel:

```
Java Control Panel -> Security (tab) -> Manage Certificates (button) -> Certificate Type: Secure Site CA -> Import (button)
```

Without this chain of trust you will see the following 'Security Warning' stating "The connection to this website is untrusted" when trying to run Java content within EBS:



Related Notes

- [Document 393320.1](#): Internationalization Update Notes for Release 12.
- [Document 2188898.1](#): Oracle E-Business Suite with Java Web Start
- [Document 393931.1](#): Deploying JRE (Native Plug-in) for Windows Clients in Oracle E-Business Suite Release 12
- [Document 1077728.1](#): Microsoft Office Integration with Oracle E-Business Suite 11i and R12
- [Document 277535.1](#): Recommended Set Up for Client/Server Products with Oracle E-Business Suite R12
- [Document 1526099.1](#): Using Apple iPads (iOS) with Oracle E-Business Suite Release 12

Change Log

Date	Description
Apr 7, 2020	Added macOS Catalina (10.15) to the macOS: Firefox Certification Matrix .
Jan 9, 2020	Added Alert: Microsoft Edge Users .
Oct 23, 2019	FF ESR 60.x has reached end of life, removed from Firefox:Certification Matrices .
Oct 2, 2019	Added Firefox Quantum ESR 68.x certification with macOS to Section 6: macOS Users
Aug 12, 2019	Added Firefox Quantum ESR 68.x for EBS 12.2 and 12.1 to Firefox:Certification Matrices .
Jul 11, 2019	Added Document 2503760.1 to IE11 Enterprise Mode and Compatibility View section.
Jan 21, 2019	Added link for Running Multiple Sessions Using Java Web Start (JWS) .
Jan 2, 2007	Initial document created.

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