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Internet Explorer security zones registry entries for advanced users

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Warning

The retired, out-of-support Internet Explorer 11 desktop application has been permanently disabled through a Microsoft Edge update on certain versions of Windows 10. For more information, see [Internet Explorer 11 desktop app retirement FAQ](#) .

This article describes how and where Internet Explorer security zones and privacy settings are stored and managed in the registry. You can use Group Policy or the Microsoft Internet Explorer Administration Kit (IEAK) to set security zones and privacy settings.

Original product version: Internet Explorer 9, Internet Explorer 10

Original KB number: 182569

Privacy settings

Internet Explorer 6 and later versions added a Privacy tab to give users more control over cookies. This tab (select **Tools**, and then select **Internet options**) provides flexibility for blocking or allowing cookies, based on the website that the cookie came from or the type of cookie. Types of cookies include first-party cookies, third-party cookies, and cookies that do not have a compact privacy policy. This tab also includes options to control website requests for physical location data, the ability to block pop-ups, and the ability to run toolbars and extensions when InPrivate browsing is enabled.

There are different levels of privacy on the Internet zone, and they are stored in the registry at the same location as the security zones.

You can also add a Web site to enable or to block cookies based on the Web site, regardless of the privacy policy on the Web site. Those

registry keys are stored in the following registry subkey:

```
HKEY_LOCAL_MACHINE\Software\Microsoft\Windows\CurrentVersion\
Internet Settings\P3P\History
```

Domains that have been added as a managed site are listed under this subkey. These domains can carry either of the following DWORD values:

0x00000005 - Always Block

0x00000001 - Always Allow

Security Zone settings

For each zone, users can control how Internet Explorer handles higher-risk items such as ActiveX controls, downloads, and scripts. Internet Explorer security zones settings are stored under the following registry subkeys:

- HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Internet Settings
- HKEY_CURRENT_USER\SOFTWARE\Microsoft\Windows\CurrentVersion\Internet Settings

These registry keys contain the following keys:

- TemplatePolicies
- ZoneMap
- Zones

① Note

By default, security zones settings are stored in the `HKEY_CURRENT_USER` registry subtree. Because this subtree is dynamically loaded for each user, the settings for one user do not affect the settings for another.

If the **Security Zones: Use only machine settings** setting in Group Policy is enabled, or if the `Security_HKLM_only` DWORD value is present and has a value of **1** in the following registry subkey, only local computer settings are used and all users have the same security settings:

```
HKEY_LOCAL_MACHINE\Software\Policies\Microsoft\Windows\CurrentVersion\Internet Settings
```

With the `Security_HKLM_only` policy enabled, HKLM values will be used by Internet Explorer. However, the HKCU values will still be displayed in the zone settings on the **Security** tab in Internet Explorer. In Internet Explorer 7, the **Security** tab of the **Internet Options** dialog box displays the following message to indicate that settings are managed by the system administrator:

Some settings are managed by your system administrator. If the **Security Zones: Use only machine settings** setting is not enabled in Group Policy, or if the `Security_HKLM_only` DWORD value does not exist or is set to **0**, computer settings are used together with user settings. However, only user settings appear in the **Internet Options**. For example, when this DWORD value does not exist or is set to **0**, `HKEY_LOCAL_MACHINE` settings are read together with `HKEY_CURRENT_USER` settings, but only `HKEY_CURRENT_USER` settings appear in the **Internet Options**.

TemplatePolicies

The `TemplatePolicies` key determines the settings of the default security zone levels. These levels are Low, Medium Low, Medium, and High. You can change the security level settings from the default settings. However, you cannot add more security levels. The keys contain values that determine the setting for the security zone. Each key contains a Description string value and a Display Name string value that

determine the text that appears on the Security tab for each security level.

ZoneMap

The `ZoneMap` key contains the following keys:

- Domains
- EscDomains
- ProtocolDefaults
- Ranges

The `Domains` key contains domains and protocols that have been added to change their behavior from the default behavior. When a domain is added, a key is added to the `Domains` key. Subdomains appear as keys under the domain where they belong. Each key that lists a domain contains a DWORD with a value name of the affected protocol. The value of the DWORD is the same as the numeric value of the security zone where the domain is added.

The `EscDomains` key resembles the Domains key except that the `EscDomains` key applies to those protocols that are affected by the Internet Explorer Enhanced Security Configuration (IE ESC). IE ESC is introduced in Microsoft Windows Server 2003 and applies to server operating systems only.

The `ProtocolDefaults` key specifies the default security zone that is used for a particular protocol (ftp, http, https). To change the default setting, you can either add a protocol to a security zone by selecting **Add Sites** on the **Security** tab, or you can add a DWORD value under the Domains key. The name of the DWORD value must match the protocol name, and it must not contain any colons (:) or slashes (/).

The `ProtocolDefaults` key also contains DWORD values that specify the default security zones where a protocol is used. You cannot use the

controls on the **Security** tab to change these values. This setting is used when a particular Web site does not fall in a security zone.

The **Ranges** key contains ranges of TCP/IP addresses. Each TCP/IP range that you specify appears in an arbitrarily named key. This key contains a **:Range** string value that contains the specified TCP/IP range. For each protocol, a DWORD value is added that contains the numeric value of the security zone for the specified IP range.

When the Urlmon.dll file uses the MapUrlToZone public function to resolve a particular URL to a security zone, it uses one of the following methods:

- If the URL contains a fully qualified domain name (FQDN), the **Domains** key is processed.

In this method, an exact site match overrides a random match.

- If the URL contains an IP address, the **Ranges** key is processed. The IP address of the URL is compared to the **:Range** value that is contained in the arbitrarily named keys under the **Ranges** key.

ⓘ Note

Because arbitrarily named keys are processed in the order that they were added to the registry, this method may find a random match before it finds a match. If this method does find a random match first, the URL may be executed in a different security zone than the zone where it is typically assigned. This behavior is by design.

Zones

The **Zones** key contains keys that represent each security zone that is defined for the computer. By default, the following five zones are defined (numbered zero through four):

Value	Setting

0	My Computer
1	Local Intranet Zone
2	Trusted sites Zone
3	Internet Zone
4	Restricted Sites Zone

ⓘ Note

By default, My Computer does not appear in the Zone box on the Security tab as it is locked down to help improve security.

Each of these keys contains the following DWORD values that represent corresponding settings on the custom Security tab.

ⓘ Note

Unless stated otherwise, each DWORD value is equal to zero, one, or three. Typically, a setting of zero sets a specific action as permitted, a setting of one causes a prompt to appear, and a setting of three prohibits the specific action.

Value	Setting

1001	ActiveX controls and plug-ins: Download signed Active
1004	ActiveX controls and plug-ins: Download unsigned Acti
1200	ActiveX controls and plug-ins: Run ActiveX controls a
1201	ActiveX controls and plug-ins: Initialize and script
1206	Miscellaneous: Allow scripting of Internet Explorer v
1207	Reserved #
1208	ActiveX controls and plug-ins: Allow previously unuse
1209	ActiveX controls and plug-ins: Allow Scriptlets
120A	ActiveX controls and plug-ins: ActiveX controls and p
120B	ActiveX controls and plug-ins: Override Per-Site (don
1400	Scripting: Active scripting

1402	Scripting: Scripting of Java applets
1405	ActiveX controls and plug-ins: Script ActiveX control
1406	Miscellaneous: Access data sources across domains
1407	Scripting: Allow Programmatic clipboard access
1408	Reserved #
1409	Scripting: Enable XSS Filter
1601	Miscellaneous: Submit non-encrypted form data
1604	Downloads: Font download
1605	Run Java #
1606	Miscellaneous: Userdata persistence ^
1607	Miscellaneous: Navigate sub-frames across different c
1608	Miscellaneous: Allow META REFRESH * ^
1609	Miscellaneous: Display mixed content *
160A	Miscellaneous: Include local directory path when uplo
1800	Miscellaneous: Installation of desktop items
1802	Miscellaneous: Drag and drop or copy and paste files
1803	Downloads: File Download ^
1804	Miscellaneous: Launching programs and files in an IFF
1805	Launching programs and files in webview #
1806	Miscellaneous: Launching applications and unsafe file
1807	Reserved ** #
1808	Reserved ** #
1809	Miscellaneous: Use Pop-up Blocker ** ^
180A	Reserved #
180B	Reserved #
180C	Reserved #
180D	Reserved #
180E	Allow OpenSearch queries in Windows Explorer #
180F	Allow previewing and custom thumbnails of OpenSearch
1A00	User Authentication: Logon
1A02	Allow persistent cookies that are stored on your comp
1A03	Allow per-session cookies (not stored) #
1A04	Miscellaneous: Don't prompt for client certificate se
1A05	Allow 3rd party persistent cookies *
1A06	Allow 3rd party session cookies *
1A10	Privacy Settings *
1C00	Java permissions #
1E05	Miscellaneous: Software channel permissions
1F00	Reserved ** #
2000	ActiveX controls and plug-ins: Binary and script beha
2001	.NET Framework-reliant components: Run components sig
2004	.NET Framework-reliant components: Run components not
2007	.NET Framework-Reliant Components: Permissions for Co
2100	Miscellaneous: Open files based on content, not file
2101	Miscellaneous: Web sites in less privileged web conte
2102	Miscellaneous: Allow script initiated windows without
2103	Scripting: Allow status bar updates via script ^
2104	Miscellaneous: Allow websites to open windows without


```
2105 Scripting: Allow websites to prompt for information u
2200 Downloads: Automatic prompting for file downloads **
2201 ActiveX controls and plug-ins: Automatic prompting fo
2300 Miscellaneous: Allow web pages to use restricted prot
2301 Miscellaneous: Use Phishing Filter ^
2400 .NET Framework: XAML browser applications
2401 .NET Framework: XPS documents
2402 .NET Framework: Loose XAML
2500 Turn on Protected Mode [Vista only setting] #
2600 Enable .NET Framework setup ^
2702 ActiveX controls and plug-ins: Allow ActiveX Filterin
2708 Miscellaneous: Allow dragging of content between doma
2709 Miscellaneous: Allow dragging of content between doma
270B Miscellaneous: Render legacy filters
270C ActiveX Controls and plug-ins: Run Antimalware softwa

{AEBA21FA-782A-4A90-978D-B72164C80120} First Party Co
{A8A88C49-5EB2-4990-A1A2-0876022C854F} Third Party Co

* indicates an Internet Explorer 6 or later setting
** indicates a Windows XP Service Pack 2 or later setting
# indicates a setting that is not displayed in the user inte
^ indicates a setting that only has two options, enabled or
```

Notes about 1200, 1A00, 1A10, 1E05, 1C00, and 2000

The following two registry entries affect whether you can run ActiveX controls in a particular zone:

- 1200 This registry entry affects whether you can run ActiveX controls or plug-ins.
- 2000 This registry entry controls binary behavior and script behavior for ActiveX controls or plug-ins.

Notes about 1A02, 1A03, 1A05, and 1A06

The following four registry entries take only effect if the following keys are present:

- {AEBA21FA-782A-4A90-978D-B72164C80120} First Party Cookie *
- {A8A88C49-5EB2-4990-A1A2-0876022C854F} Third-Party Cookie *

Registry entries

- 1A02 Allow persistent cookies that are stored on your computer #
- 1A03 Allow per-session cookies (not stored) #
- 1A05 Allow third party persistent cookies *
- 1A06 Allow third party session cookies *

These registry entries are located in the following registry subkey:

```
HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Internet Settings\Zones\<ZoneNumber>
```

In this registry subkey, <ZoneNumber> is a zone such as 0 (zero). The 1200 registry entry and the 2000 registry entry each contain a setting that is named Administrator approved. When this setting is enabled, the value for the particular registry entry is set to 00010000. When the Administrator approved setting is enabled, Windows examines the following registry subkey to locate a list of approved controls:

```
HKEY_CURRENT_USER\Software\Policies\Microsoft\Windows\CurrentVersion\Internet Settings\AllowedControls
```

Logon setting (1A00) may have any one of the following values (hexadecimal):

Value	Setting
0x00000000	Automatically logon with current username and password
0x00010000	Prompt for user name and password

0x00020000 Automatic logon only in the Intranet zone

0x00030000 Anonymous logon

Privacy Settings (1A10) is used by the Privacy tab slider. The DWORD values are as follows:

Block All Cookies: 00000003
High: 00000001
Medium High: 00000001
Medium: 00000001
Low: 00000001
Accept all Cookies: 00000000

Based on the settings in the slider, it will also modify the values in {A8A88C49-5EB2-4990-A1A2-0876022C854F}, {AEBA21Fa-782A-4A90-978D-B72164C80120}, or both.

The Java Permissions setting (1C00) has the following five possible values (binary):

Value	Setting
00 00 00 00	Disable Java
00 00 01 00	High safety
00 00 02 00	Medium safety
00 00 03 00	Low safety
00 00 80 00	Custom

If Custom is selected, it uses {7839DA25-F5FE-11D0-883B-0080C726DCBB} (that is located in the same registry location) to store the custom information in a binary.

Each security zone contains the Description string value and the Display Name string value. The text of these values appears on the Security tab when you select a zone in the Zone box. There is also an Icon string value that sets the icon that appears for each zone. Except for the My Computer zone, each zone contains a CurrentLevel, MinLevel,

and `RecommendedLevel` DWORD value. The `MinLevel` value sets the lowest setting that can be used before you receive a warning message, `CurrentLevel` is the current setting for the zone, and `RecommendedLevel` is the recommended level for the zone.

What values for `Minlevel`, `RecommendedLevel`, and `CurrentLevel` mean the following:

Value (Hexadecimal)	Setting

0x00010000	Low Security
0x00010500	Medium Low Security
0x00011000	Medium Security
0x00012000	High Security

The `Flags` DWORD value determines the ability of the user to modify the security zone's properties. To determine the `Flags` value, add the numbers of the appropriate settings together. The following `Flags` values are available (decimal):

Value	Setting

1	Allow changes to custom settings
2	Allow users to add Web sites to this zone
4	Require verified Web sites (https protocol)
8	Include Web sites that bypass the proxy server
16	Include Web sites not listed in other zones
32	Do not show security zone in Internet Properties (default)
64	Show the Requires Server Verification dialog box
128	Treat Universal Naming Connections (UNCs) as intranet
256	Automatically detect Intranet network

If you add settings to both the `HKEY_LOCAL_MACHINE` and the `HKEY_CURRENT_USER` subtrees, the settings are additive. If you add Web sites to both subtrees, only those Web sites in

the `HKEY_CURRENT_USER` are visible. The Web sites in the `HKEY_LOCAL_MACHINE` subtree are still enforced according to their settings. However, they are not available, and you cannot modify them. This situation can be confusing because a Web site may be listed in only one security zone for each protocol.

References

For more information about changes to functionality in Microsoft Windows XP Service Pack 2 (SP2), visit the following Microsoft Web site:

[Part 5: Enhanced Browsing Security](#)

For more information about URL security zones, visit the following Microsoft Web site:

[About URL Security Zones](#)


For more information about how to change Internet Explorer security settings, visit the following Microsoft Web site:

[Change security and privacy settings for Internet Explorer 11](#) 



For more information about Internet Explorer Local Machine Zone Lockdown, visit the following Microsoft Web site:

[Internet Explorer Local Machine Zone Lockdown](#)

For more information about values associated with the actions that can be taken in a URL security zone, see [URL Action Flags](#).

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