Integrated Windows Authentication

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*For other uses, see*[*IWA (disambiguation)*](https://en.wikipedia.org/wiki/IWA_(disambiguation))*.*

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[**Integrated**](https://en.wikipedia.org/wiki/Integrated_Services_Digital_Network)**Windows Authentication** (**IWA**)[[1]](https://en.wikipedia.org/wiki/Integrated_Windows_Authentication#cite_note-1) is a term associated with [Microsoft](https://en.wikipedia.org/wiki/Microsoft) products that refers to the [SPNEGO](https://en.wikipedia.org/wiki/SPNEGO), [Kerberos](https://en.wikipedia.org/wiki/Kerberos_(protocol)), and [NTLMSSP](https://en.wikipedia.org/wiki/NTLMSSP) authentication protocols with respect to [SSPI](https://en.wikipedia.org/wiki/Security_Support_Provider_Interface) functionality introduced with Microsoft [Windows 2000](https://en.wikipedia.org/wiki/Windows_2000) and included with later [Windows NT](https://en.wikipedia.org/wiki/Windows_NT)-based operating systems. The term is used more commonly for the automatically authenticated connections between Microsoft [Internet Information Services](https://en.wikipedia.org/wiki/Internet_Information_Services), [Internet Explorer](https://en.wikipedia.org/wiki/Internet_Explorer), and other [Active Directory](https://en.wikipedia.org/wiki/Active_Directory) aware applications.

IWA is also known by several names like [*HTTP*](https://en.wikipedia.org/wiki/HTTP)*Negotiate authentication*, *NT Authentication*,[[2]](https://en.wikipedia.org/wiki/Integrated_Windows_Authentication#cite_note-2) *NTLM Authentication*,[[3]](https://en.wikipedia.org/wiki/Integrated_Windows_Authentication#cite_note-3) *Domain authentication*,[[4]](https://en.wikipedia.org/wiki/Integrated_Windows_Authentication#cite_note-4) *Windows Integrated Authentication*,[[5]](https://en.wikipedia.org/wiki/Integrated_Windows_Authentication#cite_note-5) *Windows NT Challenge/Response authentication*,[[6]](https://en.wikipedia.org/wiki/Integrated_Windows_Authentication#cite_note-6) or simply *Windows Authentication*.



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*Further information:*[*SPNEGO*](https://en.wikipedia.org/wiki/SPNEGO)*,*[*Kerberos (protocol)*](https://en.wikipedia.org/wiki/Kerberos_(protocol))*,*[*NTLMSSP*](https://en.wikipedia.org/wiki/NTLMSSP)*,*[*NTLM*](https://en.wikipedia.org/wiki/NTLM)*,*[*SSPI*](https://en.wikipedia.org/wiki/SSPI)*, and*[*GSSAPI*](https://en.wikipedia.org/wiki/GSSAPI)

Integrated Windows Authentication uses the security features of Windows clients and servers. Unlike Basic or Digest authentication, initially, it does not prompt users for a user name and password. The current Windows user information on the client computer is supplied by the web browser through a cryptographic exchange involving hashing with the Web server. If the authentication exchange initially fails to identify the user, the web browser will prompt the user for a Windows user account user name and password.

Integrated Windows Authentication itself is not a standard or an authentication protocol. When IWA is selected as an option of a program (e.g. within the *Directory Security* tab of the [IIS](https://en.wikipedia.org/wiki/Internet_Information_Services) site properties dialog)[[7]](https://en.wikipedia.org/wiki/Integrated_Windows_Authentication#cite_note-iisDocumentation-7) this implies that underlying security mechanisms should be used in a preferential order. If the [Kerberos](https://en.wikipedia.org/wiki/Kerberos_(protocol)) provider is functional and a [Kerberos ticket](https://en.wikipedia.org/wiki/Kerberos_(protocol)#Protocol) can be obtained for the target, and any associated settings permit Kerberos authentication to occur (e.g. Intranet sites settings in [Internet Explorer](https://en.wikipedia.org/wiki/Internet_Explorer)), the Kerberos 5 protocol will be attempted. Otherwise [NTLMSSP](https://en.wikipedia.org/wiki/NTLMSSP) authentication is attempted. Similarly, if Kerberos authentication is attempted, yet it fails, then NTLMSSP is attempted. IWA uses [SPNEGO](https://en.wikipedia.org/wiki/SPNEGO) to allow initiators and acceptors to negotiate either Kerberos or NTLMSSP. Third party utilities have extended the Integrated Windows Authentication paradigm to UNIX, Linux and Mac systems.

Supported web browsers[[edit](https://en.wikipedia.org/w/index.php?title=Integrated_Windows_Authentication&action=edit&section=2)]

Integrated Windows Authentication works with most modern web browsers,[[8]](https://en.wikipedia.org/wiki/Integrated_Windows_Authentication#cite_note-8) but does not work over some HTTP [proxy servers](https://en.wikipedia.org/wiki/Proxy_server).[[7]](https://en.wikipedia.org/wiki/Integrated_Windows_Authentication#cite_note-iisDocumentation-7) Therefore, it is best for use in [intranets](https://en.wikipedia.org/wiki/Intranet) where all the clients are within a single [domain](https://en.wikipedia.org/wiki/Windows_Server_domain). It may work with other web browsers if they have been configured to pass the user's logon credentials to the server that is requesting authentication. Where a proxy itself requires NTLM authentication, some applications like Java may not work because the protocol is not described in RFC-2069 for proxy authentication.

* [Internet Explorer](https://en.wikipedia.org/wiki/Internet_Explorer) 2 and later versions.[[7]](https://en.wikipedia.org/wiki/Integrated_Windows_Authentication#cite_note-iisDocumentation-7)
* In [Mozilla Firefox](https://en.wikipedia.org/wiki/Mozilla_Firefox) on Windows operating systems, the names of the domains/websites to which the authentication is to be passed can be entered (comma delimited for multiple domains) for the "*network.negotiate-auth.trusted-uris*" (for Kerberos) or in the "*network.automatic-ntlm-auth.trusted-uris*" (NTLM) Preference Name on the *about:config* page.[[9]](https://en.wikipedia.org/wiki/Integrated_Windows_Authentication#cite_note-9) On the Macintosh operating systems this works if you have a kerberos ticket (use negotiate). Some websites may also require configuring the "*network.negotiate-auth.delegation-uris*".
* [Opera](https://en.wikipedia.org/wiki/Opera_(web_browser)) 9.01 and later versions can use NTLM/Negotiate, but will use Basic or Digest authentication if that is offered by the server.
* [Google Chrome](https://en.wikipedia.org/wiki/Google_Chrome) works as of 8.0.
* [Safari](https://en.wikipedia.org/wiki/Safari_(web_browser)) works, once you have a Kerberos ticket.
* [Microsoft Edge](https://en.wikipedia.org/wiki/Microsoft_Edge) 77 and later.[[10]](https://en.wikipedia.org/wiki/Integrated_Windows_Authentication#cite_note-10)

Supported mobile browsers[[edit](https://en.wikipedia.org/w/index.php?title=Integrated_Windows_Authentication&action=edit&section=3)]

* [Bitzer Secure Browser](http://www.bitzermobile.com/) supports Kerberos and NTLM SSO from iOS and Android. Both KINIT and PKINIT are supported.

See also[[edit](https://en.wikipedia.org/w/index.php?title=Integrated_Windows_Authentication&action=edit&section=4)]

* [SSPI](https://en.wikipedia.org/wiki/Security_Support_Provider_Interface) (Security Support Provider Interface)
* [NTLM](https://en.wikipedia.org/wiki/NTLM) (NT Lan Manager)
* [SPNEGO](https://en.wikipedia.org/wiki/SPNEGO) (Simple and Protected GSSAPI Negotiation Mechanism)
  + [GSSAPI](https://en.wikipedia.org/wiki/GSSAPI) (Generic Security Services Application Program Interface)

References[[edit](https://en.wikipedia.org/w/index.php?title=Integrated_Windows_Authentication&action=edit&section=5)]

1. [**^**](https://en.wikipedia.org/wiki/Integrated_Windows_Authentication#cite_ref-1) [*"Microsoft Security Advisory (974926) - Credential Relaying Attacks on Integrated Windows Authentication"*](https://technet.microsoft.com/en-us/security/advisory/974926)*. Microsoft Security TechCenter. 2009-12-08.*[*Archived*](https://web.archive.org/web/20130619025922/http:/technet.microsoft.com/en-us/security/advisory/974926)*from the original on 2013-06-19. Retrieved 2012-11-16. This advisory addresses [...] Integrated Windows Authentication (IWA) [...]*
2. [**^**](https://en.wikipedia.org/wiki/Integrated_Windows_Authentication#cite_ref-2) [*"Q147706: How to disable LM authentication on Windows NT"*](http://support.microsoft.com/kb/147706)*. Microsoft Support. 2006-09-16.*[*Archived*](https://web.archive.org/web/20121117203848/http:/support.microsoft.com/kb/147706)*from the original on 2012-11-17. Retrieved 2012-11-16. [...] Windows NT supported two kinds of challenge/response authentication: [...] LanManager (LM) challenge/response [...] Windows NT challenge/response (also known as NTLM challenge/response) [...] LM authentication is not as strong as Windows NT authentication [...]*
3. [**^**](https://en.wikipedia.org/wiki/Integrated_Windows_Authentication#cite_ref-3) [*"IIS Authentication"*](http://msdn.microsoft.com/en-us/library/aa292114(VS.71).aspx)*. Microsoft MSDN Library.*[*Archived*](https://web.archive.org/web/20121128123232/http:/msdn.microsoft.com/en-us/library/aa292114(VS.71).aspx)*from the original on 2012-11-28. Retrieved 2012-11-16. Integrated Windows authentication (formerly known as NTLM authentication [...]) [...]*
4. [**^**](https://en.wikipedia.org/wiki/Integrated_Windows_Authentication#cite_ref-4) [*"NTLM Overview"*](https://technet.microsoft.com/en-us/library/hh831571.aspx)*. Microsoft TechNet. 2012-02-29.*[*Archived*](https://web.archive.org/web/20121031033729/http:/technet.microsoft.com/en-us/library/hh831571.aspx)*from the original on 2012-10-31. Retrieved 2012-11-16. When the NTLM protocol is used, a resource server must [...] Contact a domain authentication service*
5. [**^**](https://en.wikipedia.org/wiki/Integrated_Windows_Authentication#cite_ref-5) [*"MSKB258063: Internet Explorer May Prompt You for a Password"*](http://support.microsoft.com/kb/258063)*. Microsoft Corporation.*[*Archived*](https://web.archive.org/web/20121021165310/http:/support.microsoft.com/kb/258063)*from the original on 2012-10-21. Retrieved 2012-11-16. Windows Integrated authentication, Windows NT Challenge/Response (NTCR), and Windows NT LAN Manager (NTLM) are the same and are used synonymously throughout this article.*
6. [**^**](https://en.wikipedia.org/wiki/Integrated_Windows_Authentication#cite_ref-6) [*"IIS Authentication"*](http://msdn.microsoft.com/en-us/library/aa292114(VS.71).aspx)*. Microsoft MSDN Library.*[*Archived*](https://web.archive.org/web/20121128123232/http:/msdn.microsoft.com/en-us/library/aa292114(VS.71).aspx)*from the original on 2012-11-28. Retrieved 2012-11-16. Integrated Windows authentication (formerly known as [...] Windows NT Challenge/Response authentication) [...]*
7. ^ [Jump up to:***a***](https://en.wikipedia.org/wiki/Integrated_Windows_Authentication#cite_ref-iisDocumentation_7-0) [***b***](https://en.wikipedia.org/wiki/Integrated_Windows_Authentication#cite_ref-iisDocumentation_7-1) [***c***](https://en.wikipedia.org/wiki/Integrated_Windows_Authentication#cite_ref-iisDocumentation_7-2) *Microsoft Corporation.*[*"Integrated Windows Authentication (IIS 6.0)"*](http://www.microsoft.com/technet/prodtechnol/WindowsServer2003/Library/IIS/523ae943-5e6a-4200-9103-9808baa00157.mspx)*. IIS 6.0 Technical Reference.*[*Archived*](https://web.archive.org/web/20090823053458/http:/www.microsoft.com/technet/prodtechnol/windowsserver2003/library/iis/523ae943-5e6a-4200-9103-9808baa00157.mspx)*from the original on 2009-08-23. Retrieved 2009-08-30.*
8. [**^**](https://en.wikipedia.org/wiki/Integrated_Windows_Authentication#cite_ref-8) <http://confluence.slac.stanford.edu/display/Gino/Integrated+Windows+Authentication>
9. [**^**](https://en.wikipedia.org/wiki/Integrated_Windows_Authentication#cite_ref-9) [*"About:config entries"*](http://kb.mozillazine.org/About:config_entries)*.*[*MozillaZine*](https://en.wikipedia.org/wiki/MozillaZine)*. 27 January 2012.*[*Archived*](https://web.archive.org/web/20120304173035/http:/kb.mozillazine.org/About:config_entries)*from the original on 2012-03-04. Retrieved 2012-03-02.*
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External links[[edit](https://en.wikipedia.org/w/index.php?title=Integrated_Windows_Authentication&action=edit&section=6)]

* [Discussion of IWA in Microsoft IIS 6.0 Technical Reference](http://www.microsoft.com/technet/prodtechnol/WindowsServer2003/Library/IIS/8feeaa51-c634-4de3-bfdc-e922d195a45e.mspx?mfr=true)