

Version

.NET 8

▾

🔍 Search

System.DirectoryServices.  
AccountManagement

- > AdvancedFilters
- > AuthenticablePrincipal
- > ComputerPrincipal
- ContextOptions
- ContextType
- > DirectoryObjectClassAttribute
- > DirectoryPropertyAttribute
- > DirectoryRdnPrefixAttribute
- > GroupPrincipal
- GroupScope
- IdentityType
- MatchType
- > MultipleMatchesException
- > NoMatchingPrincipalException
- > PasswordException
- > Principal
- > PrincipalCollection
- > PrincipalContext
- > PrincipalException
- > PrincipalExistsException
- > PrincipalOperationException
- > PrincipalSearcher
- > PrincipalSearchResult<T>
- > PrincipalServerDownException
- > PrincipalValueCollection<T>
- > UserPrincipal

 **Download PDF**

[Learn](#) / [.NET](#) / [API browser](#) /

[⊕](#) [✎](#) [⋮](#)

# System.DirectoryServices.Account Management Namespace

Reference

[👍 Feedback](#)

In this article

- [Classes](#)
- [Enums](#)
- [Remarks](#)
- [See also](#)

Provides uniform access and manipulation of user, computer, and group security principals across the multiple principal stores: Active Directory Domain Services (AD DS), Active Directory Lightweight Directory Services (AD LDS), and Machine SAM (MSAM).  
[System.DirectoryServices.AccountManagement](#) manages directory objects independent of the [System.DirectoryServices](#) namespace.


## Classes

[🔗 Expand table](#)

<a href="#">AdvancedFilters</a>	This class provides writable access to certain attributes so that users can modify read-only properties of the "dummy" principal object that is passed to a <a href="#">PrincipalSearcher</a> object when using <a href="#">Query By Example</a> <a href="#">🔗</a> .
<a href="#">AuthenticablePrincipal</a>	Encapsulates the account and contact data common to principals that can be authenticated.
<a href="#">ComputerPrincipal</a>	Encapsulates principals that are computer accounts.
<a href="#">DirectoryObjectClassAttribute</a>	Represents the schema object that is used to create an object of this type in the directory. This attribute is required for principal extensions and can only be set on classes.
<a href="#">DirectoryPropertyAttribute</a>	Contains the data required by the store to map a principal property to a directory attribute. This attribute is required for principal extensions and can only be set on a property. It must be specified on every property that represents a directory attribute in the extended class.
<a href="#">DirectoryRdnPrefixAttribute</a>	The RDN prefix used to construct the RDN for the new object that is inserted into the store. The default RDN prefix of "CN" is used by the Account Management API if this attribute is not set. This attribute is optional and can only be set on principal extension classes.
<a href="#">GroupPrincipal</a>	Encapsulates group accounts. Group accounts can be arbitrary collections of principal objects or accounts created for administrative purposes.
<a href="#">MultipleMatchesException</a>	This exception is thrown by methods that expect to match a single principal object when there are multiple matches to the search query.
<a href="#">NoMatchingPrincipalException</a>	This exception is thrown when no matching principal object could be found with the specified parameters.
<a href="#">PasswordException</a>	This exception is thrown when a password does not meet complexity requirements.

<a href="#">Principal</a>	Encapsulates the account data and operations common to all security principals. This is the abstract base class from which all security principals are derived.
<a href="#">Principal Collection</a>	A mutable collection of objects derived from the <a href="#">Principal</a> class. This class is designed to be used for multi-valued properties that contain <a href="#">Principal</a> objects. Manipulating the contents of this collection changes the contents of the corresponding store property, which is made permanent when <a href="#">Save()</a> is called on the corresponding principal object.
<a href="#">PrincipalContext</a>	Encapsulates the server or domain against which all operations are performed, the container that is used as the base of those operations, and the credentials used to perform the operations.
<a href="#">PrincipalException</a>	The base class of exceptions thrown by <a href="#">System.DirectoryServices.AccountManagement</a> objects.
<a href="#">PrincipalExists Exception</a>	Thrown by <a href="#">Add</a> method when an attempt is made to insert a principal that already exists in the collection, or by <a href="#">Save()</a> when an attempt is made to save a new principal that already exists in the store.
<a href="#">Principal Operation Exception</a>	Thrown when ADSI returns an error during an operation to update the store.
<a href="#">PrincipalSearcher</a>	Encapsulates the methods and search patterns used to execute a query against the underlying principal store.
<a href="#">PrincipalSearch Result&lt;T&gt;</a>	Returns a collection of <a href="#">Principal</a> objects that are returned by a search.
<a href="#">PrincipalServer DownException</a>	This exception is thrown when the API is unable to connect to the server.
<a href="#">PrincipalValue Collection&lt;T&gt;</a>	Multi-valued properties, such as <a href="#">PermittedWorkstations</a> , have a value of the type <a href="#">PrincipalValueCollection&lt;T&gt;</a> . This class provides methods to enumerate and manipulate those values.
<a href="#">UserPrincipal</a>	Encapsulates principals that are user accounts.

## Enums

 Expand table

<a href="#">Context Options</a>	Specifies the options that are used for binding to the server. The application can set multiple options that are linked with a bitwise OR operation.
<a href="#">ContextType</a>	Specifies the type of store to which the principal belongs.
<a href="#">GroupScope</a>	Specifies the scope of the group principal.
<a href="#">IdentityType</a>	Specifies the format of the identity.
<a href="#">MatchType</a>	The <a href="#">MatchType</a> enumeration specifies the type of comparison used in a search.

## Remarks

Managed directory services applications can take advantage of the [System.DirectoryServices.AccountManagement](#) API to simplify management of user, computer and group principals. Solutions that previously required intricate knowledge of the store or lengthy code, such as finding all groups to which a user belongs, are accomplished in a few lines of code with the [System.DirectoryServices.AccountManagement](#) API.

The following features are available on the [System.DirectoryServices.AccountManagement](#) API:

- Basic directory operations such as creating and updating security principals is simplified. The application requires less knowledge of the underlying stores to perform these operations.

- Applications can extend the object model to include new types of directory objects.
- Account management tasks, such as enabling and disabling a user account, are simplified.
- Cross-store support allows group objects in the Active Directory Domain Services (AD DS), Active Directory Lightweight Directory Services (AD LDS), and Machine SAM (MSAM) databases to contain members from different types of stores.
- Query by example searching, available on the [PrincipalSearcher](#) class, enables applications to set properties on a principal object and search the selected store for other objects that contain matching property values.
- Enhanced search on computer, user and group principal objects enables applications to search the selected store for matching principal objects.
- Recursive search, available on the group principal object, enables applications to search a group recursively and return only principal objects that are leaf nodes.
- Credential validation against the Machine SAM, AD DS, and AD LS stores is simplified.
- Connections speeds are increased by using the Fast Concurrent Bind (FSB) feature when available. Connection caching decreases the number of ports used.

## See also

- [System.DirectoryServices](#)
- [System.DirectoryServices.AccountManagement Namespace Overview](#)



### Collaborate with us on GitHub

The source for this content can be found on GitHub, where you can also create and review issues and pull requests. For more information, see [our contributor guide](#).



### .NET feedback

.NET is an open source project. Select a link to provide feedback:



[Open a documentation issue](#)



[Provide product feedback](#)