Access Control Lists

An [access control list](https://docs.microsoft.com/en-us/windows/desktop/SecGloss/a-gly) (ACL) is a list of [access control entries](https://docs.microsoft.com/en-us/windows/win32/secauthz/access-control-entries) (ACE). Each ACE in an ACL identifies a [trustee](https://docs.microsoft.com/en-us/windows/win32/secauthz/trustees) and specifies the [access rights](https://docs.microsoft.com/en-us/windows/win32/secauthz/access-rights-and-access-masks) allowed, denied, or audited for that trustee. The [security descriptor](https://docs.microsoft.com/en-us/windows/win32/secauthz/security-descriptors) for a [securable object](https://docs.microsoft.com/en-us/windows/win32/secauthz/securable-objects) can contain two types of ACLs: a DACL and a SACL.

A [discretionary access control list](https://docs.microsoft.com/en-us/windows/desktop/SecGloss/d-gly) (DACL) identifies the trustees that are allowed or denied access to a securable object. When a [process](https://docs.microsoft.com/en-us/windows/desktop/SecGloss/p-gly) tries to access a securable object, the system checks the ACEs in the object's DACL to determine whether to grant access to it. If the object does not have a DACL, the system grants full access to everyone. If the object's DACL has no ACEs, the system denies all attempts to access the object because the DACL does not allow any access rights.

The information about what a subject (user, process, and so on) is allowed to do to an object or resource is specified in a data structure known as an ACL. ACLs enumerate who (which principal) has what kind of access to specific objects. A discretionary ACL (DACL) is a type of ACL where the owners of objects are allowed to change them. Whenever an object is accessed, the security descriptor is compared to the principal's permissions to verify that the requested access is allowed.

# <https://docs.spring.io/spring-security/site/docs/3.0.x/reference/domain-acls.html> Domain Object Security (ACLs)

Access Control List (*ACL)*is a list of permissions attached to an object. An ACL specifies which identities are granted which operations on a given object.

*Spring Security*Access Control Listis **a Spring component which supports Domain Object Security.**Simply put, Spring ACL helps in defining permissions for specific user/role on a single domain object – instead of across the board, at the typical per-operation level.

For example, a user with the role Admin can see (READ) and edit (WRITE) all messages on a Central Notice Box, but the normal user only can see messages, relate to them and cannot edit. Meanwhile, others user with the role Editor can see and edit some specific messages.

Hence, different user/role has different permission for each specific object. In this case, Spring ACL is capable of achieving the task. We'll explore how to set up basic permission checking with Spring ACL in this article.

<https://www.baeldung.com/spring-security-acl>

<https://www.dummies.com/programming/networking/cisco/creating-standard-access-control-lists-acls/>

<https://stackoverflow.com/questions/27258159/restrict-access-to-folder-outside-of-program-c-sharp>

<https://stackoverflow.com/questions/19129377/creating-a-file-accessible-to-only-my-application-in-c>

<https://docs.microsoft.com/en-us/archive/msdn-magazine/2008/november/access-control-understanding-windows-file-and-registry-permissions>

Powershell:

<https://blog.netwrix.com/2018/04/18/how-to-manage-file-system-acls-with-powershell-scripts/?fbclid=IwAR2u-oHP1ZdIXAJ393yERNbjkVW85UBWGBAlsF_8_omPGVFXyXN_HsiDU8I>

<https://www.netwrix.com/how_to_get_acl_for_a_folder.html?fbclid=IwAR0zHsTuiSgMOtUgvYEVju1yGtgwBRpOk07TC6NawyBYG8PSEUjTIq0gd_U>

<https://petri.com/how-to-get-ntfs-file-permissions-using-powershell?fbclid=IwAR0EOizhr10cgXxwGCli7NUwGFQFOXos2YVdFN_onhkmJIa6JnaHSdgjjeY>

<https://www.netwrix.com/how_to_get_acl_for_a_folder.html?fbclid=IwAR0caAEB6AKR-2cdFj6L8R98FZbKAMjTw06jmTyDMqy1GuEuB75ZSYfWUTo>